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CURRENT SERIAL RECORDS

# WATER SUPPLY OUTLOOK and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS for OREGON

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE

and

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above  
in cooperation with other Federal, State and private organizations.

AS OF  
MAY 1, 1965

# UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

## To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Soil Conservation Service, 511 N.W. Broadway - Room 507, Portland, Oregon 97209.

## PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
<b>RIVER BASINS</b>			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
BASIC DATA SUMMARY	OCTOBER 1	PORTLAND, OREGON	ALL COOPERATORS
<b>STATES</b>			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

## PUBLISHED BY OTHER AGENCIES

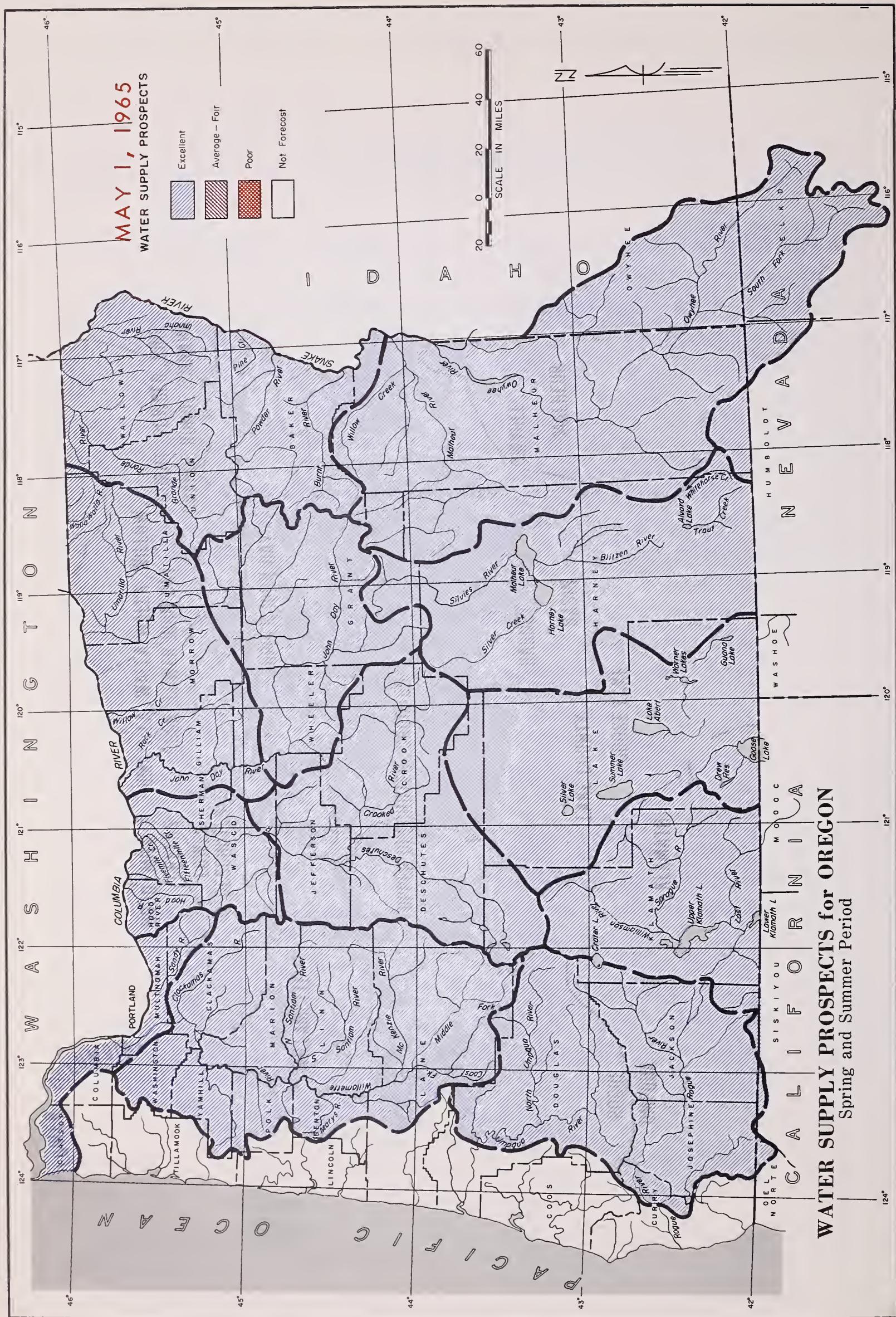
<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RESOURCES SERVICE, DEPT. OF LANDS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

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# WATER SUPPLY OUTLOOK for OREGON

MAY 1, 1965

Water users in Oregon can expect average to excellent water supplies, May through September, unless abnormally warm, dry conditions prevail during the runoff period. Mountain snowpacks, major source of summer streamflow, are unusually heavy at very high elevations, but at low and moderate elevations most of the snow has melted off. Reservoir water supplies are at an all-time high and soils in the upper watersheds are extremely wet. Forecasts of seasonal streamflow are mostly near average with highest flows, 125-130 percent average, expected in the John Day and Wallowa River basins.

## SNOW COVER

Water content of the mountain snowpack varies greatly over the state. It is well above the May 1st average, especially at high elevations in the John Day, Grande Ronde, Powder, Burnt, Malheur, and Owyhee watersheds. Snow cover is near average in the Klamath, Rogue, and Umpqua basins, but is from 20 to 40 percent below average in most other watersheds.

Watershed soils underlying the remaining snowpack are extremely wet, whereas, other soils need a continuation of recent rains to completely recharge them.

## RESERVOIR STORAGE

Total water stored in 25 Oregon reservoirs exceeds nearly all previous records and is now 118 percent of the May average and 124 percent of last year at this date. Many of these reservoirs are full, and the group contains 91 percent of the total capacity.

## STREAMFLOW

Flow of key Oregon streams\* during April has been below average except on the John Day and Rogue Rivers where it has been 131 and 101 percent of average. Flow of the Umatilla was 89 percent average, the Klamath 83 percent, the Owyhee and Middle Fork Willamette, 74 percent and the Umpqua a low 68 percent average.

Forecasts of expected spring and summer streamflow are generally near the 15 year average (1948-62). Lowest forecasts, percentage-wise, are in the 80 to 90 percent category, and include inflow to Gerber and Clear Lake reservoirs in Klamath Basin, inflow to Ochoco Reservoir near Prineville, and flow of Clackamas and Hood Rivers.

continued --

Highest forecasts, in the 120 to 130 percent range, are on the Imnaha River, Powder, Burnt, John Day, and Crooked Rivers.

It now seems likely that all irrigated lands will have at least average amounts of water for this season's operators.

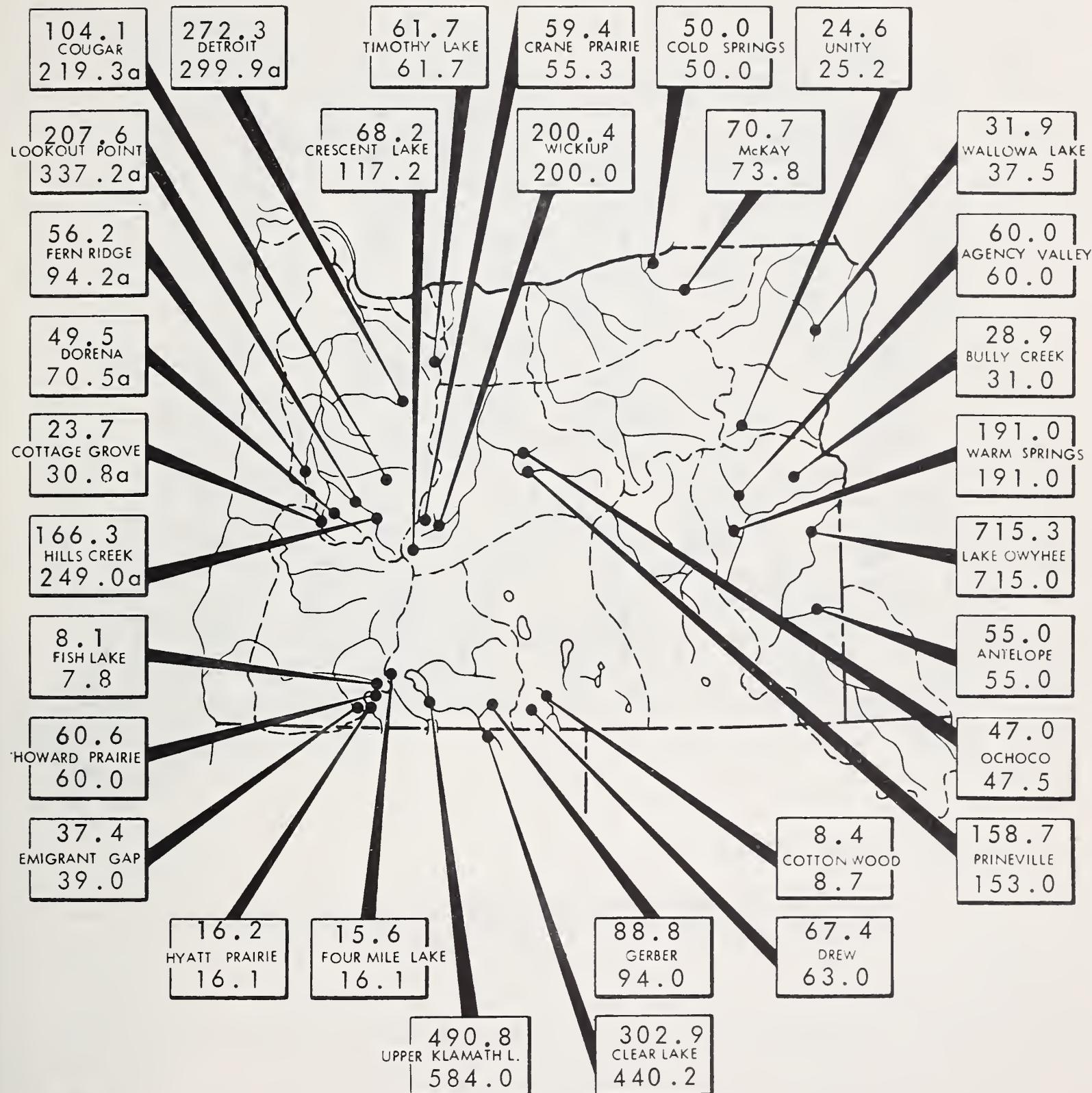
- \* Preliminary streamflow data from U. S. Geological Survey, Portland, Oregon.



# STORAGE STATUS of OREGON RESERVOIRS

## usable contents in thousands of acre feet

MAY 1, 1965



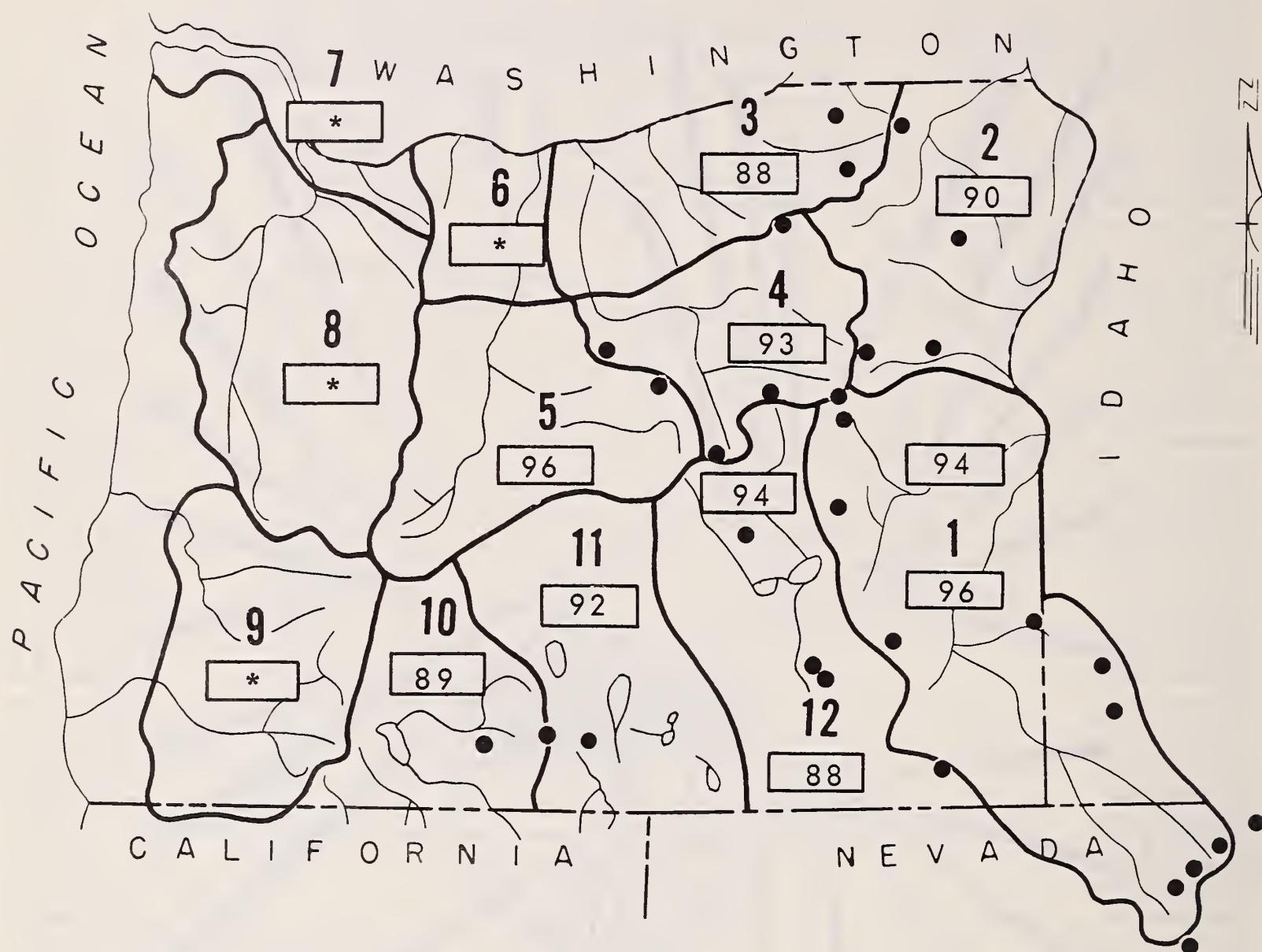
### EXPLANATION

687.0	---Contents
LAKE Owyhee	
715.0	---Capacity

(a) Multiple purpose reservoir - space reserved for flood runoff.  
N. R. - No report.

# MOUNTAIN SOIL MOISTURE in OREGON as percent of capacity

MAY 1, 1965

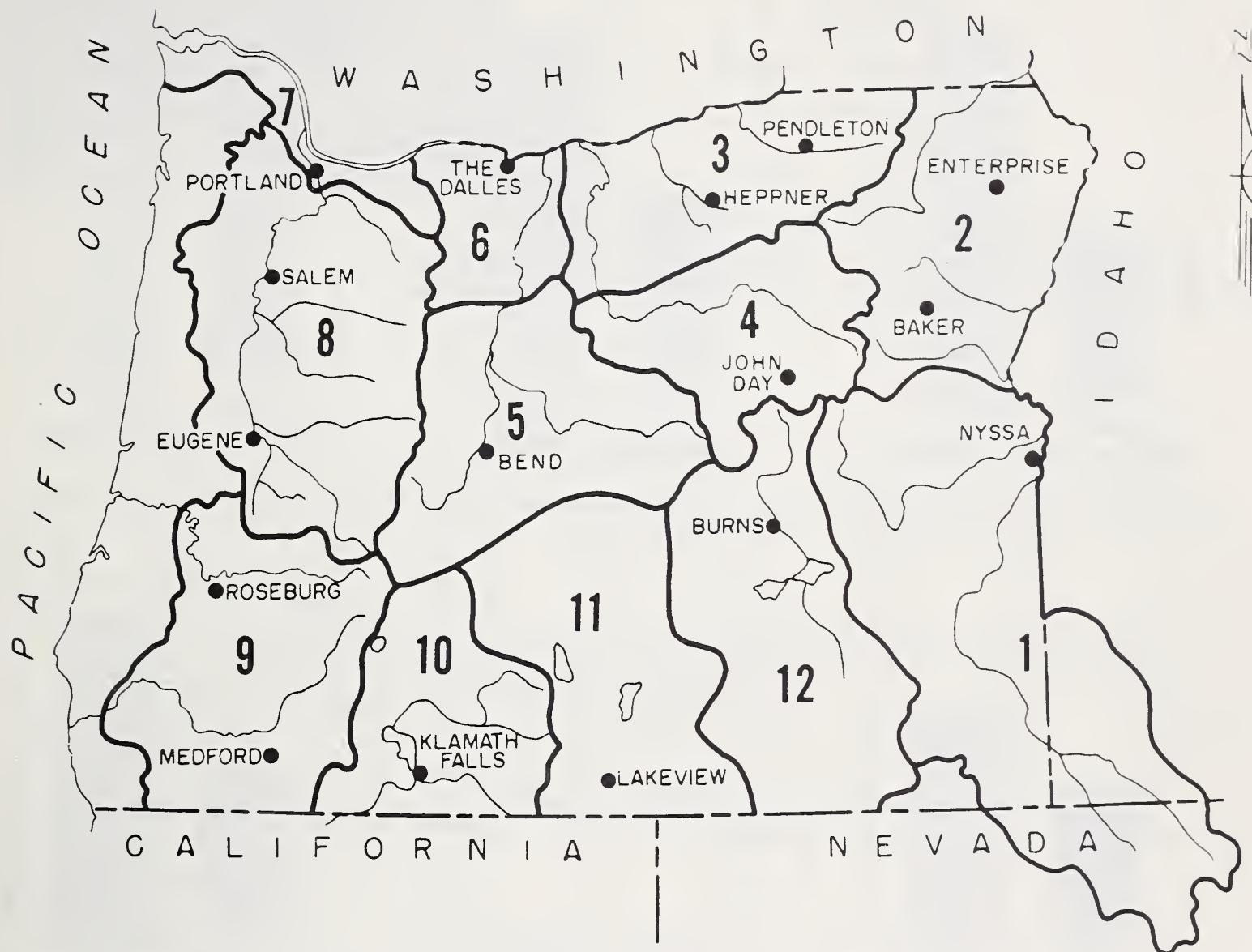


- Soil Moisture Station

\*Moisture studies not yet developed in these areas.

# VALLEY PRECIPITATION in OREGON<sup>a</sup>

MAY 1, 1965



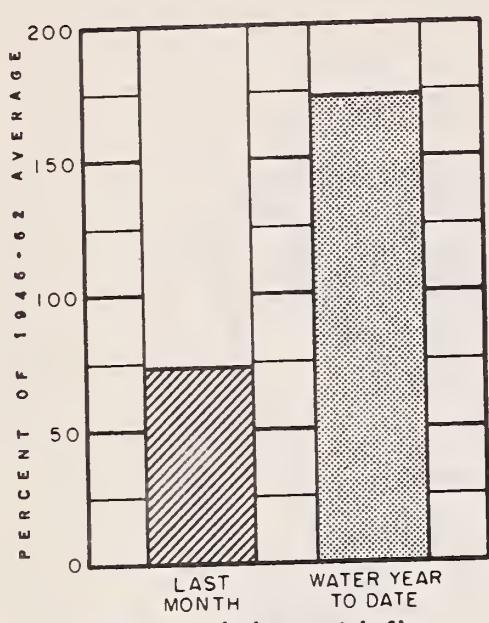
PRECIPITATION as PERCENT of the 1948-62 AVERAGE

STATION	LAST MONTH	WATER YEAR TO DATE <sup>b</sup>	STATION	LAST MONTH	WATER YEAR TO DATE <sup>b</sup>
BAKER APT.	231	144	LAKEVIEW	139	152
BEND	107	151	NEACHAM	98	133
BURNS	188	144	MEDFORD APT.	361	159
ENTERPRISE	114	125	NYSSA	125	114
EUGENE APT.	138	127	PENDLETON APT.	59	111
HEPPNER	59	117	PORTLAND APT.	94	95
JOHN DAY	125	128	SALEM APT.	100	94
Klamath Falls APT.	266	138	THE DALLES	174	142
			OWYHEE (NEV.)	188	126

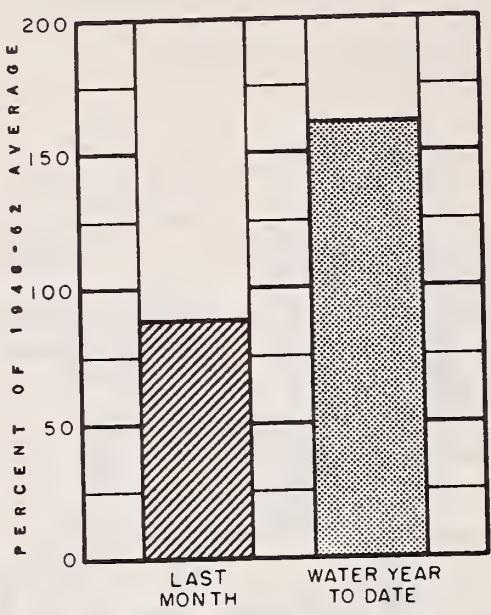
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

## CURRENT OREGON STREAMFLOW

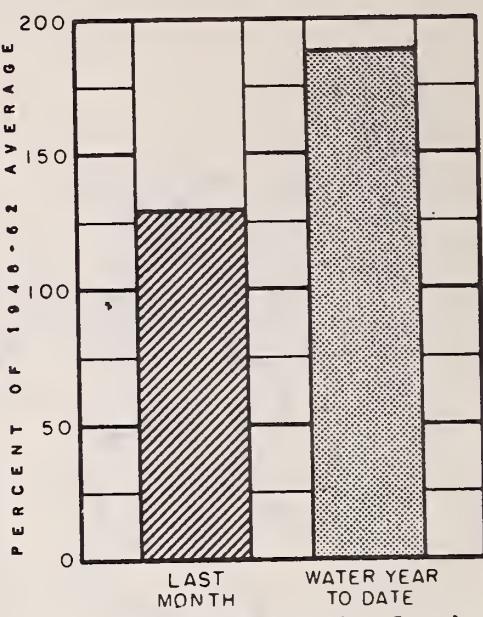
MAY 1, 1965



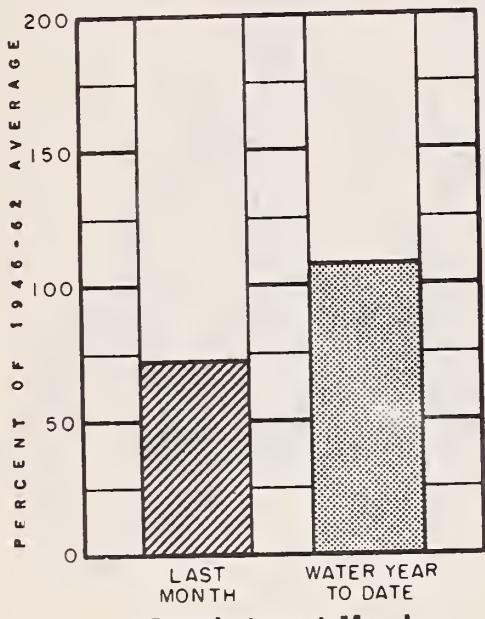
Owyhee Lake net inflow



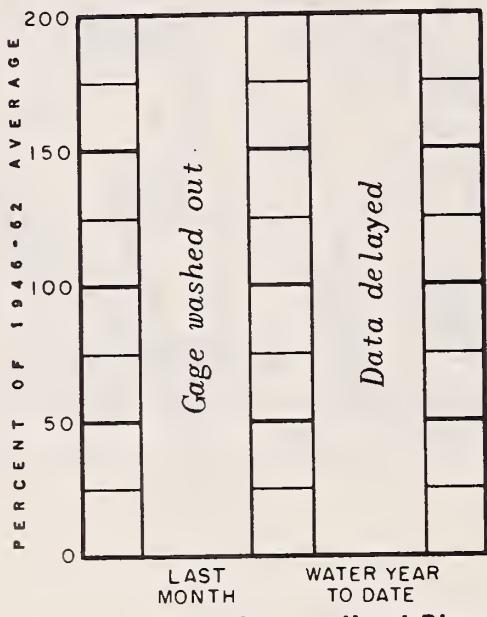
Umatilla near Umatilla



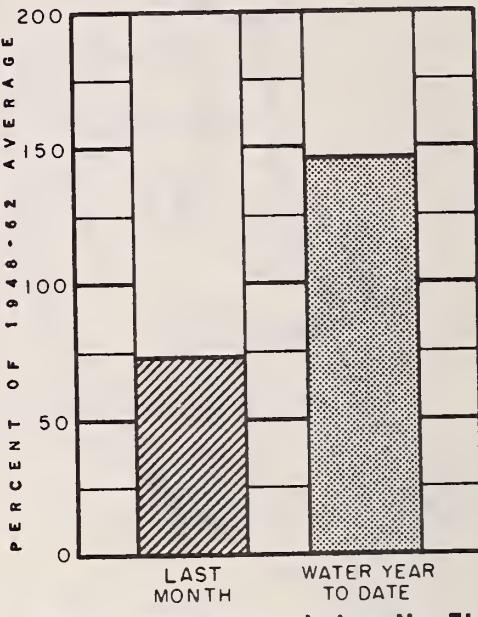
John Day at Service Creek



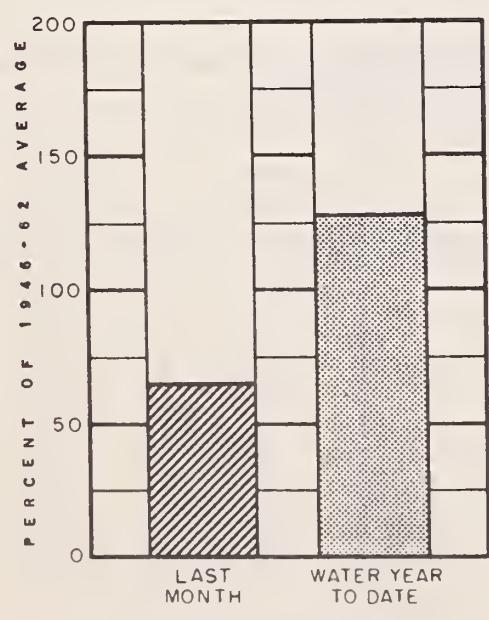
Deschutes at Moody



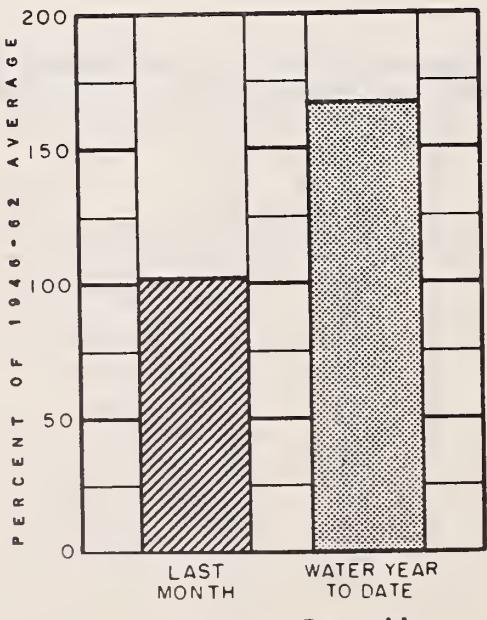
Hood and conduit near Hood River



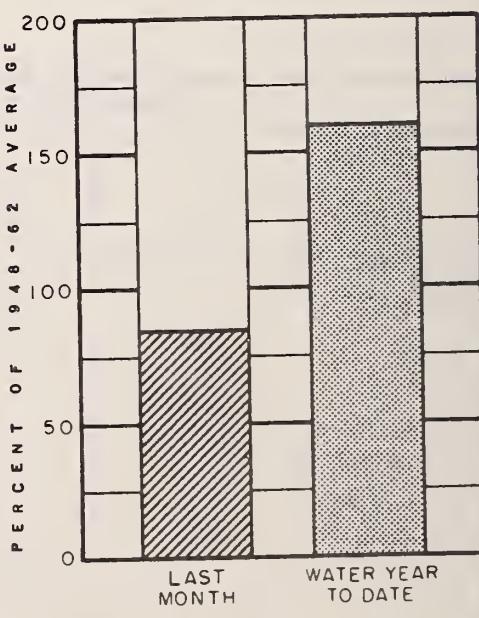
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow



# WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS OREGON

*as of*  
MAY 1, 1965

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U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

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## GENERAL OUTLOOK

Farmers, ranchers and other water users in Malheur County will have average to excellent water supplies during the remainder of this spring and summer unless abnormally warm, dry weather prevails during the runoff period. The mountain snowpack has better than average water content at higher elevations and lies on nearly saturated soils. Stored water supplies are at an all-time high.

## SNOW COVER

Water content of the mountain snowpack, averaging measurements at 13 snow courses, totals 110 percent of average and 114 percent of last year, although there is very little snow below 5800 feet elevation.

## SOIL MOISTURE

The soil mantle underlying the snowpack is practically saturated. At 10 soil stations the soil moisture is up to 95 percent of capacity.

## RESERVOIR STORAGE

Antelope Reservoir, which stores water for Jordan Valley Irrigation District, is full and spilling with 55,000 acre feet of water ready for use.

Lake Owyhee, with a capacity of 715,000 acre feet, is full and spilling.

Willow Creek Reservoir #3, better known as Malheur Lake, is reported to have an excellent supply on hand for Orchards Water Company.

The Warm Springs and Vale Oregon Irrigation Districts have a record water supply on hand in the Bully Creek, Agency Valley and Warm Springs reservoirs, which now contain a total of 280,000 acre feet. All but the Bully Creek Reservoir are full and spilling.

## STREAMFLOW

Flow into Lake Owyhee\* during April was 146,000 acre feet or 74 percent of the average.

Expected inflow to Lake Owyhee, May through September, is 205,000 acre feet or 111 percent of average. Flow of Jordan Creek above Lone Tree Creek is forecast at 105,000 acre feet or 107 percent April through July.

continued on next page

Report prepared by

W.T. FROST AND BOB L. WHALEY

U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.  
PORTLAND, OREGON 97205

Malheur River near Drewsey is forecast to flow 40,000 acre feet or 114 percent average May through September. North Fork Malheur at Beulah is forecast to produce 45,000 acre feet or 118 percent average for the same five months.

\* Preliminary data furnished by North Board of Control, Owyhee Project, Nyssa, Ore.

## WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair", "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Average	Average
Bully Creek	Average	Average
Cow Creek	Average	Average
Jordan Creek	Average	Average
Jordan Valley Irrig. Dist.	Excellent	Excellent
McDermitt Creek	Average	Average
Oregon Canyon Creek	Average	Average
Owyhee Project	Excellent	Excellent
Succor Creek	Average	Average
Tenmile Creek	Average	Average
Vale-Oregon Irrig. Dist.	Excellent	Excellent
Warmsprings Irrig. Dist.	Excellent	Excellent
Willow Creek (Reservoired)	Excellent	Average

## RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Agency Valley	60.0	60.0	43.1	51.2
Antelope	55.0	55.0	40.1	28.5
Bully Creek	31.0	28.9	22.3	—
Owyhee	715.0	715.3	623.2	553.6
Warmsprings	191.0	191.0	99.5	128.6

## STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE		THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
				1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>	
1780	Jordan Creek above Lone Tree Creek	105	April-July	98	107	
2140	Malheur near Drewsey	39	May-July	34	115	
		40	May-Sept.	35	114	
2175	Malheur, North Fork at Beulah <sup>d</sup>	39	May-July	33	118	
		45	May-Sept.	38	118	
1825	Owyhee Reservoir net Inflow <sup>k</sup>	188	May-July	168	112	
		205	May-Sept.	184	111	

## SOIL MOISTURE

STATION	PROFILE (Inches)		SOIL MOISTURE (Inches)			
	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION					
Bear Creek (Nev.)	7800	72	16.8	b		
Big Bend (Nev.)	6700	48	16.7	4-28-65	16.7	16.5
Blue Mountain Springs	5900	42	16.9	4-26-65	13.5	12.5
Crane Prairie	5375	48	18.2	4-26-65	18.0	17.4
Folly Farm	4450	30	12.5	4-7-65	12.1 <sup>f</sup>	—
Jack Creek, Lower (Nev.)	6800	48	8.6	4-30-65	8.4 <sup>f</sup>	8.4
Jordan Valley	4390	48	19.3	4-7-65	17.1 <sup>f</sup>	—
Mud Flat (Ida.)	5500	48	12.8	4-30-65	12.1	9.5 <sup>f</sup>
Rodeo Flat (Nev.)	6800	42	11.0	4-27-65	11.0	10.8 <sup>f</sup>
Stinking Water Summit	4800	48	21.9	4-7-65	21.9 <sup>f</sup>	21.1
Taylor Canyon	6200	48	15.1	4-30-65	15.0	14.9
Triangle (Ida.)	5150	48	16.6	b		14.3

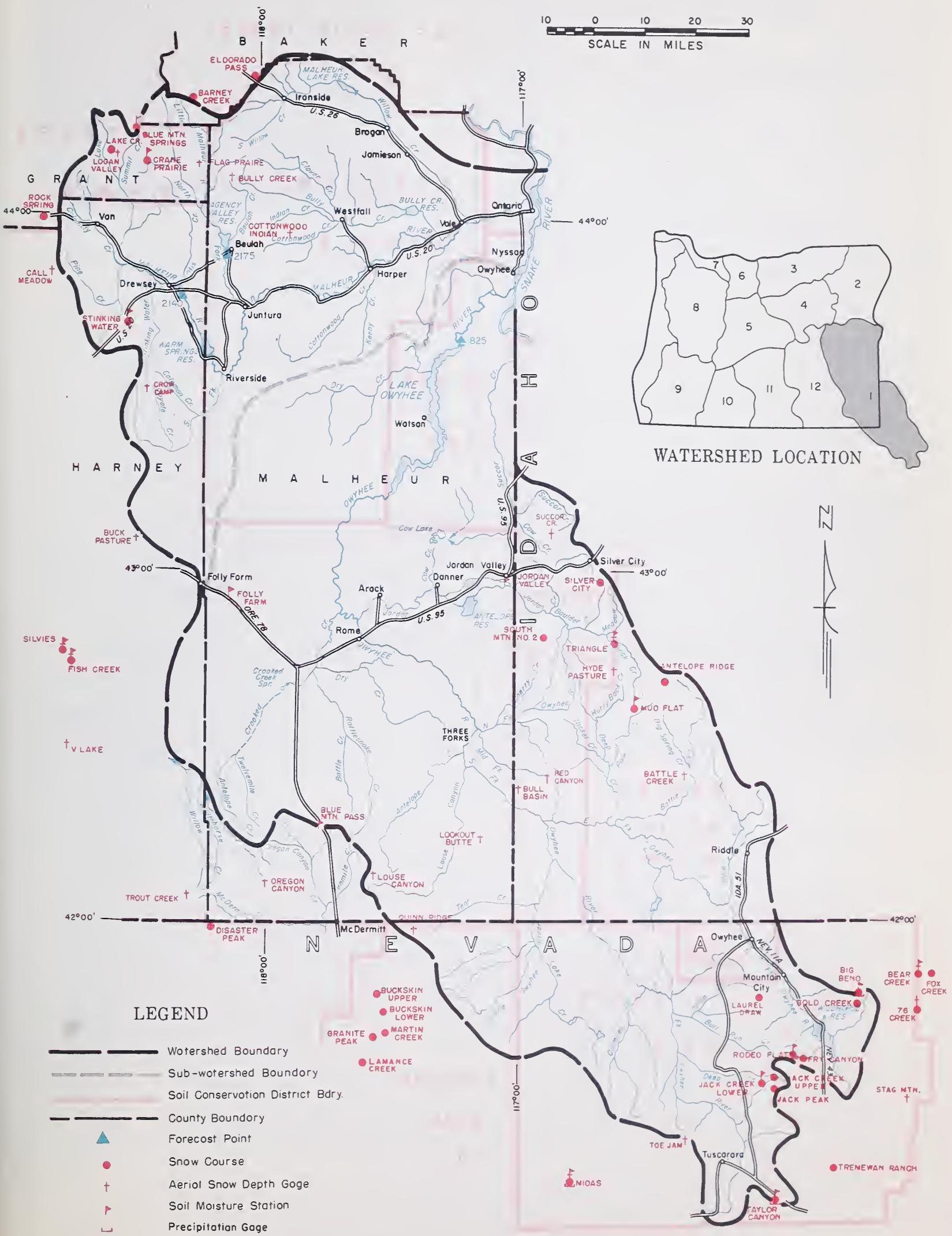
## SNOW

SNOW COURSE	CURRENT INFORMATION			PAST RECORD	
	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR
NAME	ELEVATION				1948-62 AVERAGE
Antelope Ridge (Ida.)	5900	4/30	0	0.0	—
Barney Creek	5950	c			—
Battle Creek (Ida.)	5700	c			
Bear Creek <sup>e</sup> (Nev.)	7800	4/29	51	24.1	17.5
Big Bend (Nev.)	6700	4/28	T	T	2.4
Blue Mountain Springs	5900	4/26	32	14.1	10.4
Buck Pasture	5700	c			
Buckskin, Lower (Nev.)	6700	c			
Buckskin, Upper (Nev.)	7200	c			

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

# OWYHEE, MALHEUR WATERSHEDS

10 0 10 20 30  
SCALE IN MILES



# Owyhee, Malheur Watersheds

## SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR
NAME	ELEVATION					1948-62 AVERAGE
Bull Basin (Ida.)	5600	c				
Bully Creek	5300	c				
Call Meadow	5340	c				
Columbia Basin (Nev.)	6650	c				
Cottonwood-Indian	4320	c				
Crane Prairie	5375	c				
Crow Camp	5500	c				
Disaster Peak (Nev.)	6500	c				
Eldorado Pass	4600	Not measured				
Fawn Creek (Nev.)	7000	c				
Fish Creek	7900	c				
Flag Prairie	4750	c				
Fox Creek (Nev.)	6800	c				
Fry Canyon (Nev.)	6700	4/28	0	0.0	0.0	1.1 <sup>h</sup>
Gold Creek (Nev.)	6600	4/28	0	0.0	0.0	0.0 <sup>h</sup>
Granite Peak (Nev.)	7800	c				
Hyde Pasture (Ida.)	5800	c				
Jack Creek, Lower (Nev.)	6800	4/30	0	0.0	T	0.0 <sup>h</sup>
Jack Creek, Upper (Nev.)	7250	4/30	T	T	1.2	3.5 <sup>h</sup>
Jacks Peak (Nev.)	8420	4/30	80	36.2	25.2	28.5 <sup>h</sup>
Lake Creek	5120	c				
Logan Valley	5100	c				
Lookout Butte	5650	c				
Louse Canyon	6440	c				
Martin Creek (Nev.)	6700	c				
Merritt Mountain (Nev.)	7000	c				
Midas (Nev.)	7200	c				
Mud Flat (Ida.)	5500	4/30	0	0.0	--	--
Oregon Canyon	6950	c				
Quinn Ridge (Nev.)	6300	c				
Red Canyon <sup>e</sup> (Ida.)	6500	4/30	0	0.0	--	--
Rock Spring	5100	4/29	0	0.0	0.0	--
Rodeo Flat (Nev.)	6800	4/28	0	0.0	0.0	1.4 <sup>h</sup>
76 Creek (Nev.)	7100	c				
Silver City <sup>e</sup> (Ida.)	6400	4/30	8	3.5	11.4	6.1 <sup>h</sup>
Silvies	6900	c				
South Mountain #2 (Ida.)	6340	c				
Stinking Water	4800	Not measured				
Succor Creek (Ida.)	6100	c				
Taylor Canyon (Nev.)	6200	4/30	0	0.0	0.0	0.0 <sup>h</sup>
Toe Jam (Nev.)	7700	c				
Tremewan Ranch (Nev.)	5700	4/28	0	0.0	0.0	0.0 <sup>h</sup>
Triangle (Ida.)	5150	4/30	0	0.0	--	--
Trout Creek	7800	c				
"V" Lake	6600	c				



Area 2

# WATER SUPPLY OUTLOOK

## BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

### OREGON

*as of*  
MAY 1, 1965

**U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER**

#### GENERAL OUTLOOK

Northeastern Oregon water users in Baker, Union and Wallowa counties will have average to excellent water supplies during the spring and summer months unless abnormally warm, dry weather conditions prevail during the runoff period. Mountain snowpacks are well above average, especially at high elevations, and the soil mantle under the snow is exceptionally wet. Reservoir water supplies are excellent.

#### SNOW COVER

Water content of the mountain snowpack is 118 percent of the May 1 average and about equal to the pack of last year at this date. Low elevation snows are all melted off.

#### SOIL MOISTURE

Watershed soils are very wet under the snowpack -- about 90 percent of capacity. Valley soils are relatively dry in the top few inches and need a continuation of recent rains.

#### RESERVOIR STORAGE

Unity Reservoir is nearly full with 24,600 acre feet in storage on May 1. Wallowa Lake held 31,900 acre feet on May 1 compared with 24,300 a.f. one year ago.

#### STREAMFLOW

Forecasts of expected streamflow during the May-September period are all well above the 1948-62 average as follows:

Burnt River near Hereford	22,000 a.f.	124 percent
Powder River near Baker	*85,000 a.f.	127 percent
Grande Ronde at La Grande	133,000 a.f.	110 percent
Catherine Creek near Union	67,000 a.f.	116 percent
Bear Creek near Wallowa	* 85,000 a.f.	118 percent
Lostine River near Lostine	*165,000 a.f.	126 percent
Hurricane Creek near Joseph	* 55,000 a.f.	115 percent
East Fork Wallowa River	13,500 a.f.	121 percent
Imnaha River at Imnaha	*420,000 a.f.	132 percent

\* Indicates April-September period.

Above normal precipitation and cool temperatures have raised these forecasts somewhat above the figures published last month.

# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",  
"Average" or "Excellent"

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Excellent	Average
Baker Valley	Excellent	Average
Big Creek	Excellent	Average
Clover Cr. (nr. N. Powder)	Excellent	Average
Cove	Excellent	Average
Durkee	Excellent	Average
Eagle Valley	Excellent	Average
Elgin	Excellent	Average
Enterprise-Joseph	Excellent	Excellent
Hereford-Bridgeport	Excellent	Excellent
Imnaha River	Excellent	Excellent
LaGrande-Island City	Excellent	Average
Lostine-Wallowa	Excellent	Average
No. Powder River-Wolf Cr.	Excellent	Average
Pine Valley	Excellent	Average
Powder River-Elk Creek	Excellent	Average
Summerville	Excellent	Average
Sumpter Valley	Excellent	Average
Union-Hot Lake	Excellent	Average
Unity	Excellent	Average

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Unity	25.2	24.6	25.2	22.7
Wallowa Lake	37.5	31.9	24.3	21.0

# STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

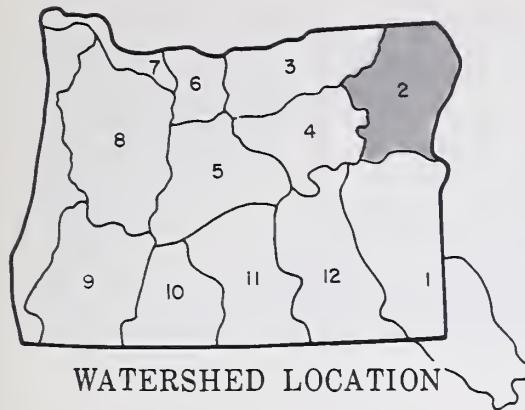
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
NO.	NAME				
3305	Bear near Wallowa	85	April-Sept.	72	118
2730	Burnt near Hereford <sup>d</sup>	20	May-June	16.0	125
		22	May-Sept.	17.8	124
3200	Catherine near Union	67	May-Sept.	58	116
3190	Grande Ronde at LaGrande	131	May-July	118	111
		133	May-Sept.	121	110
3295	Hurricane Creek near Joseph	55	April-Sept.	48	115
2920	Imnaha at Imnaha	420	April-Sept.	318	132
3300	Lostine near Lostine	165	April-Sept.	131	126
2755	Powder River near Baker	84	April-July	66	128
		85	April-Sept.	67	127
3250	Wallowa, East Fork near Joseph <sup>d</sup>	10.7	May-July	8.8	122
		13.5	May-Sept.	11.2	121

# SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)		
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR
					2 YEARS AGO	
Blue Mountain Summit	5100	36	16.8	4-28-65	16.0	14.2
Emigrant Springs	3925	48	22.3	4-27-65	21.0	22.0
Tollgate	5070	48	23.6	4-28-65	19.7	19.6

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



#### WATERSHED LOCATION



## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Boundary
- County Boundary
- ▲ Forecast Point
- Snow Course
- ▶ Soil Moisture Station
- † Aerial Snow Depth Gage
- └ Precipitation Gage

# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",  
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON.	LATE SEASON
Birch Creek	Excellent	Average
Butter Creek	Excellent	Average
Dry Creek	Average	Average
Dugger Creek	Average	Average
Johnson Creek	Average	Average
McKay Creek	Excellent	Average
Mill Creek	Average	Average
Mud Creek	Average	Average
Pine Creek	Average	Average
Rhea Creek	Excellent	Average
Rock Creek	Excellent	Average
Umatilla R. (Cold Springs Reservoir)	Excellent	Average
Umatilla River, Main	Average	Average
Umatilla River (McKay Res.)	Excellent	Average
Walla Walla River, Little	Average	Average
Walla Walla River, Main	Average	Average
Walla Walla River, No. Fk.	Average	Average
Walla Walla River, So. Fk.	Average	Average
Willow Creek	Excellent	Average

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cold Springs Camp McKay	50.0 73.8	50.0 70.7	50.0 35.4	49.2 62.9

# STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

NO.	NAME	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
0320	Butter Creek near Pine City		9.3	April-Sept.	9.8	95
0225	McKay near Pilot Rock		13.5	May-Sept.	14.1	96
0200	Umatilla River near Gibbon		93	April-Sept.	93	100
0210	Umatilla River at Pendleton		176	April-July	178	99
0100	Walla Walla, So. Fork near Milton		180	April-Sept.	183	98
			40	May-July	44	91
			52	May-Sept.	58	90

# SOIL MOISTURE

STATION	PROFILE (Inches)		SOIL MOISTURE (Inches)		
	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR
NAME	ELEVATION				2 YEARS AGO
Athena-Weston	1700	48	18.7	14.2	14.4
Battle Mountain Summit	4340	48	13.8	13.8	13.7
Emigrant Springs	3925	48	22.3	21.0	22.0
Tollgate	5070	48	23.6	19.7	19.6

# SNOW

SNOW COURSE	CURRENT INFORMATION			PAST RECORD	
	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	1948-62 AVERAGE
NAME	ELEVATION		LAST YEAR		
Arbuckle Mountain	5400	4/28	0	0.0	8.1
Battle Mountain Summit	4340	4/27	0	0.0	0.8
Blue Mountain Camp	4300	4/28	0	0.0	12.8
Emigrant Springs	3925	4/27	0	0.0	0.4
Lucky Strike	5050	4/30	18	8.1	12.5
Meacham	4300	4/27	T	T	5.8
Tollgate	5070	4/28	24	12.3	32.9
Weston Mountain	2700	4/28	0	0.0	0.0

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

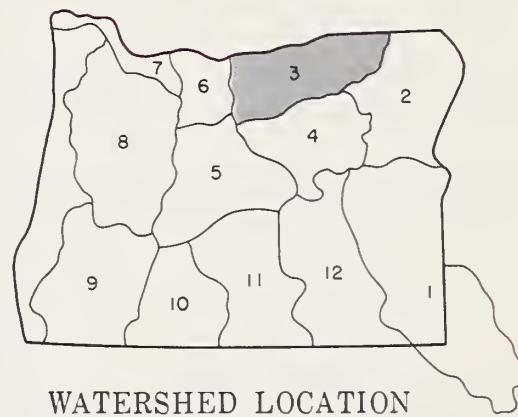
# UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

10 0 10 20 30  
SCALE IN MILES



## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- ▼ Soil Moisture Station



WATERSHED LOCATION





# WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS OREGON

*as of*

MAY 1, 1965

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U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

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## GENERAL OUTLOOK

The 1965 water supply outlook for Grant and Wheeler counties remains average to excellent. Snow cover and soil moisture are above average at high elevations and streamflow is holding up well.

## SNOW COVER

Water content of the snowpack averaged 126 percent of the 1948-62 May 1 average for 11 snow courses. All of the snow measured was above 5000 feet elevation and above average amounts were measured at only 5900 feet and higher.

## SOIL MOISTURE

Watershed soils are near saturation at higher elevations under the snow. Six soil moisture stations in the John Day Basin average 93 percent of total capacity.

## STREAMFLOW

The April flow of the John Day River at Service Creek was 131 percent of average according to preliminary reports by the Geological Survey, Portland, Oregon.

Streamflow forecasts have been raised slightly due to above average precipitation and good runoff during April. The forecasts for the April through September period are as follows:

Strawberry Creek	10,500 a.f.	119 percent
John Day at Prairie City	66,000 a.f.	129 percent
John Day Middle Fork at Ritter	164,000 a.f.	125 percent

Smaller streams at lower elevations are expected to produce about average flows unless warmer and drier than average conditions prevail during the runoff period.

*Report prepared by*

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1218 S.W. WASHINGTON ST.  
PORTLAND, OREGON 97205

# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair", "Average" or "Excellent"

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Excellent	Average
Beech Creek-Fox-Long Cr.	Excellent	Average
Bridge-Mountain Creeks	Excellent	Average
Camas Creek	Excellent	Average
Indian-Pine Creeks	Excellent	Average
John Day River, Main Fork	Excellent	Average
John Day River, Mid. Fork	Excellent	Average
John Day River, N. Fork	Excellent	Average
John Day River, S. Fork	Excellent	Average
Monument-Kimberly	Excellent	Average
Strawberry Creek	Excellent	Average

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

## STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
NO.	NAME				
0385	John Day at Prairie City	60 66	April-July April-Sept.	46 51	130 129
0440	John Day, Middle Fork at Ritter	160 164	April-July April-Sept.	127 131	126 125
0375	Strawberry near Prairie City	9.7 10.5	April-July April-Sept.	8.1 8.8	120 119

## SOIL MOISTURE

STATION	PROFILE (Inches)		SOIL MOISTURE (Inches)			
	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION					
Battle Mountain Summit	4340	48	13.8	4-27-65	13.8	13.7
Blue Mountain Springs	5900	42	16.9	4-26-65	13.5	12.5
Blue Mountain Summit	5100	36	16.8	4-28-65	16.0	14.2
Derr	5670	24	9.0	b		15.7
Marks Creek	4540	36	14.1	4-30-65	13.6	13.4 <sup>f</sup>
Snow Mountain	6300	48	16.7	3-29-65	15.9 <sup>f</sup>	12.4 <sup>f</sup>
Starr Ridge	5150	36	10.6	4-26-65	10.3	10.6

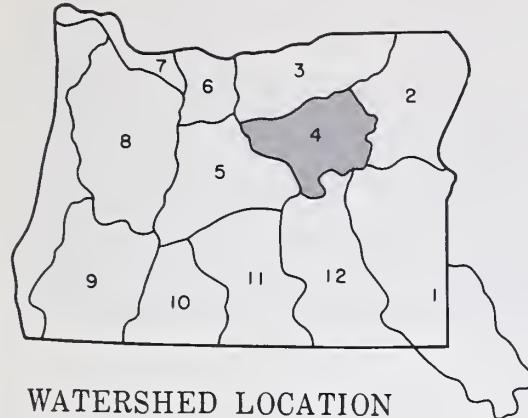
## SNOW

SNOW COURSE	CURRENT INFORMATION			PAST RECORD	
	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR
NAME	ELEVATION				1948-62 AVERAGE
Anthony Lake	7125	4/26	85	42.2	32.8
Arbuckle Mountain	5400	4/28	0	0.0	8.1
Battle Mountain Summit	4340	4/27	0	0.0	0.8
Beech Creek Summit	4800	4/26	0	0.0	0.0
Blue Mountain Springs	5900	4/26	32	14.1	10.4
Blue Mountain Summit	5098	4/28	1	0.6	2.0
Derr	5670	c			1.6 <sup>m</sup>
East Fork Canyon	5700	c			2.5 <sup>m</sup>
Gold Center	5340	4/27	3	1.5	
Indian Creek Butte	6550	c			
Izee Summit	5293	4/26	0	0.0	2.5
Lucky Strike	5050	4/30	18	8.1	12.5
Marks Creek	4540	4/30	0	0.0	0.0
Ochoco Meadows	5200	c			T <sup>m</sup>
Olive Lake	6000	4/28 <sup>j</sup>	52	23.6	21.4
Schoolmarm	4775	4/30	0	0.0	--
Snow Mountain	6300	c			--
Starr Ridge	5150	4/26	0	0.0	0.0
Tipton	5100	4/28	0	0.0	T
Williams Ranch	4500	4/26	0	0.0	--

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# UPPER JOHN DAY WATERSHEDS

10 0 10 20 30  
SCALE IN MILES



WATERSHED LOCATION



## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- Soil Moisture Station
- † Aerial Snow Depth Gage
- Precipitation Gage





# WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

*as of*  
MAY 1, 1965

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U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

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## GENERAL OUTLOOK

An average to excellent water supply outlook is in prospect for water users of Crook, Deschutes and Jefferson counties in 1965. Snow cover is near average, soil moisture is very good, and reservoir storage is above average.

## SNOW COVER

Water content of the snowpack, as measured at 16 snow courses, now averages 82 percent of the May 1 average for the 1948-62 period. Measurements taken at the highest locations on the watershed are 10 to 20 percent above average while median elevations were below average or completely bare.

## SOIL MOISTURE

Watershed soils are still 96 percent of capacity at moisture stations and closer to saturation under the remaining snowpack.

## RESERVOIR STORAGE

Ochoco and Prineville reservoirs now hold 47,000 and 158,700 acre feet respectively.

Crescent Lake has 68,200 acre feet in storage; Crane Prairie and Wickiup are full with 59,400 and 200,400 acre feet stored for later use. Water stored in these reservoirs will provide an ample water supply for water users this summer.

## STREAMFLOW

Flow of the Deschutes at Moody was 73 percent of the 1948-62 April average as reported by the Geological Survey, Portland, Oregon.

Streamflow forecasts remain about the same for the April-September period as issued on April 1. The Deschutes at Benham Falls is forecast at 105 percent of average. The Little Deschutes near Lapine is expected to flow 106 percent. Tumalo and Squaw creeks are forecast to flow 104 and 107 percent respectively and the Deschutes below Snow Creek is forecast at 103 percent of average.

The inflow to Crane Prairie is expected to be 106 percent of the May-September average.

Crooked River near Post is forecast at 125 percent and the inflow to Ochoco Reservoir is expected to be about 82 percent of its May-September average for the 1948-62 period.

Report prepared by

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1218 S.W. WASHINGTON ST.  
PORTLAND, OREGON 97205

# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",  
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District	Excellent	Average
Bear Creek	Average	Average
Beaver Creek	Average	Average
Camp Creek	Average	Average
Central Ore. Irrig. Dist.	Excellent	Average
Crooked River	Excellent	Average
Deschutes River	Average	Average
Hay-Trout Creeks	Average	Average
Lone Pine Irrig. Dist.	Excellent	Average
Mill Creek.	Average	Average
North Unit Irrig. Dist.	Excellent	Average
Ochoco Creek	Average	Average
Sisters Irrigation Dist.	Excellent	Average
Snow Creek Irrig. Dist.	Excellent	Average
Squaw Creek Irrig. Dist.	Excellent	Average
Swalley Ditch	Excellent	Excellent
Tumalo Project	Excellent	Average
Walker Basin Irrig. Dist.	Average	Average

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Crane Prairie	55.3	59.4	37.4	46.6
Crescent Lake	117.2	68.2	53.7	51.3
Ochoco	47.5	47.0	34.4	39.1
Prineville	153.0	158.7	136.0	—
Wickiup	200.0	200.4	176.7	185.5

Note: Current storage figure for Crescent Lake includes 5360 acre feet of known dead and inactive storage.

# STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE		THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
				FORECAST THIS YEAR	1948-62 AVERAGE	
0535	Crane Prairie Reservoir total Inflow	83 135	May-July May-Sept.	79 127	105 106	
0600	Crescent at Crescent Lake <sup>d</sup>	24 32	May-July May-Sept.	22 29	109 110	
0795	Crooked near Post	57 60	May-July May-Sept.	46 48	124 125	
0645	Deschutes at Benham Falls <sup>d</sup>	442 662	April-July April-Sept.	417 631	106 105	
0500	Deschutes below Snow Creek	77	April-Sept.	75	103	
0630	Deschutes, Little near Lapine <sup>d</sup>	106 120	April-July April-Sept.	99 113	107 106	
0848	Ochoco Reservoir net Inflow	13.5	May-Sept.	16.5	82	
0555	Odell near Crescent	35	April-Sept.	34	103	
0750	Squaw near Sisters	60	April-Sept.	56	107	
0730	Tumalo near Bend <sup>d</sup>	56	April-Sept.	54	104	

# SOIL MOISTURE

STATION	PROFILE (Inches)		SOIL MOISTURE (Inches)			
	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Derr	5670	24	9.0	b		
Marks Creek	4540	36	14.1	4-30-65	13.6 <sup>f</sup>	13.4 <sup>f</sup>
Snow Mountain	6300	48	16.7	3-29-65	15.9 <sup>f</sup>	12.4 <sup>f</sup>

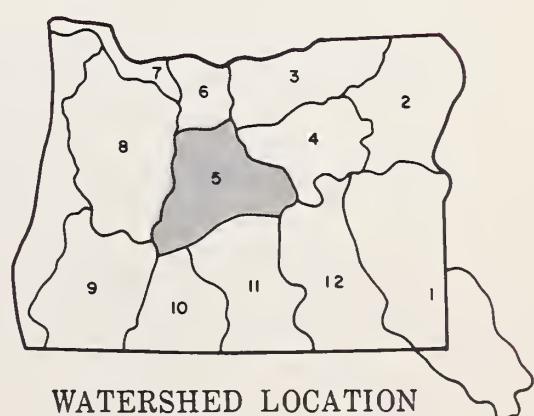
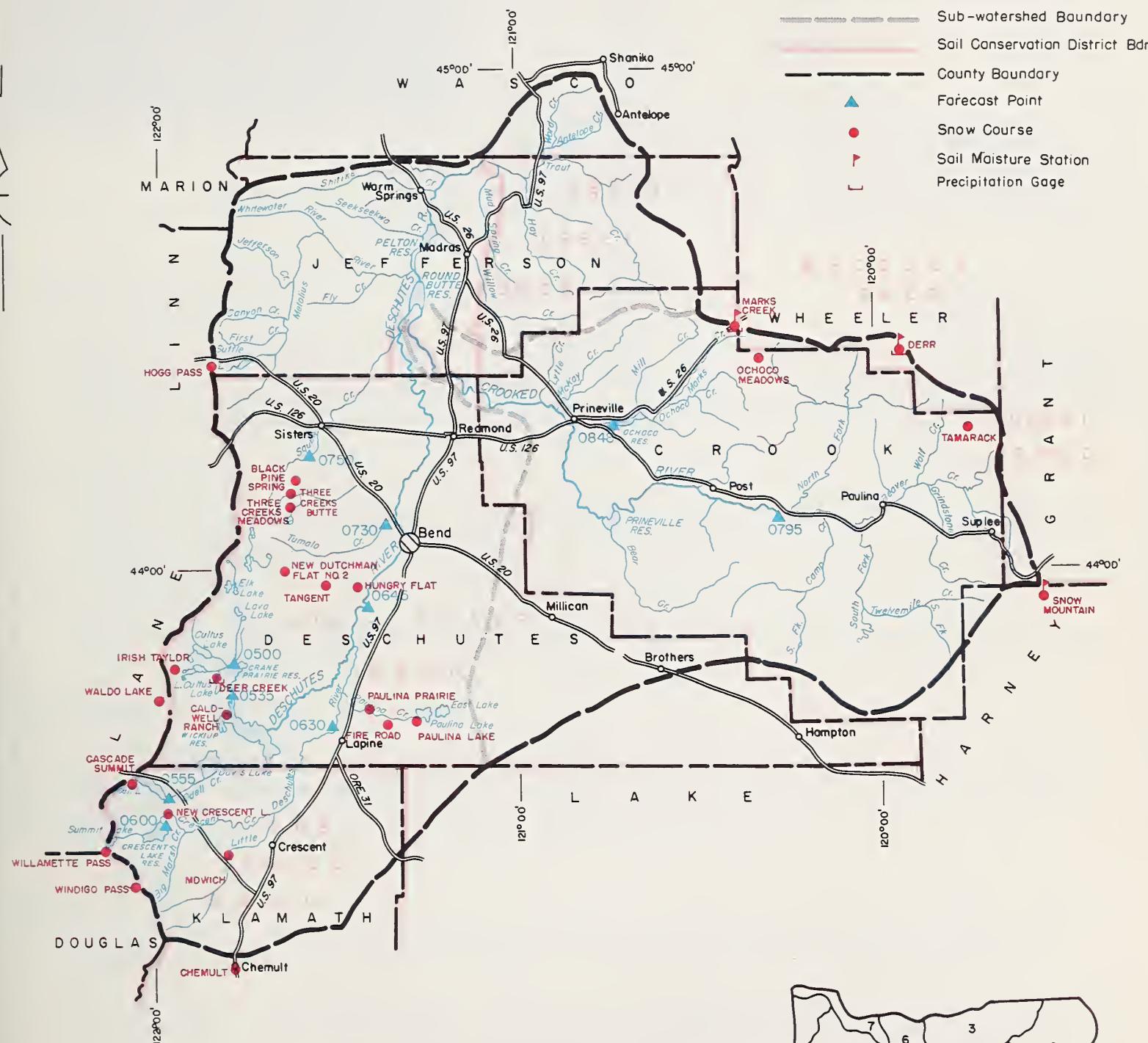
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# UPPER DESCHUTES, CROOKED WATERSHEDS

10 0 10 20 30  
SCALE IN MILES

## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Sail Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- Sail Moisture Station
- Precipitation Gage



WATERSHED LOCATION

## SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Black Pine Spring	4600	4/30	0	0.0	0.0		0.4 <sup>h</sup>
Caldwell Ranch	4400	c					
Cascade Summit	4880	4/29	36	18.6	34.3	28.6	
Chemult	4760	4/29	0	0.0	0.9	0.6 <sup>m</sup>	
Deer Creek	4554	c					
Derr	5670	c					
Fire Road	5050	4/26	0	0.0	1.7	0.7 <sup>h</sup>	
Hogg Pass	4755	4/30	65	32.1	50.7	46.9 <sup>h</sup>	
Hungry Flat	4400	4/29	0	0.0	0.0	0.0 <sup>m</sup>	
Irish Taylor	5500	c					
Marks Creek	4540	4/30	0	0.0	0.0	T <sup>m</sup>	
Mowich	4700	4/28	0	0.0	0.0	0.0 <sup>m</sup>	
New Crescent Lake	6400	4/28	0	0.0	9.7	5.6 <sup>h</sup>	
New Dutchman Flat #2	6400	4/29	115	63.2	54.6	57.7	
Ochoco Meadows	5200	c					
Paulina Lake	6330	4/26	45	21.8	18.1	18.1 <sup>h</sup>	
Paulina Prairie	4285	4/26	0	0.0	0.0	0.0 <sup>h</sup>	
Snow Mountain	6300	c					
Tamarack	4800	c					
Tangent	5400	4/29	6	2.8	16.2	12.5 <sup>h</sup>	
Three Creeks Butte	5200	4/30	0	0.0	3.2	3.1 <sup>h</sup>	
Three Creeks Meadows	5650	4/30	12	5.5	18.1	15.3	
Waldo Lake	5500	c					
Willamette Pass	5600	4/27	73	39.6	46.5	45.4 <sup>h</sup>	
Windigo Pass	5800	4/28	89	46.1	51.3	48.8	



# WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS OREGON

*as of*

MAY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

## GENERAL OUTLOOK

Hood River and Wasco county water users will have average water supplies during the balance of the spring and summer of 1965 unless abnormally warm, dry weather conditions prevail during the runoff period. Mountain snow cover is below average but watershed soils are well wetted. Stored water supplies are excellent.

## SNOW COVER

Water content of the mountain snowpack is 61 percent of the May 1 average and 44 percent of last year at this date.

## SOIL MOISTURE

Moisture in watershed soils is excellent and will favor runoff from either snowmelt or rainfall.

## RESERVOIR STORAGE

Clear Lake Reservoir contained 7,200 acre feet of water on May 1 for use of the Juniper Flat Irrigation District. Capacity of this reservoir is 11,800 acre feet and last year only 2,300 acre feet were on hand. Reports were unavailable on other reservoirs such as Rock Creek and Badger Lake.

## STREAMFLOW

Forecasts of streamflow in Hood River and Wasco counties have been reduced slightly from estimates made on April 1 due to reduction in the snowpack.

Flow of Hood River West Fork is forecast at 110,000 acre feet or 88 percent average May through September. The main Hood River near Hood River is forecast at 240,000 acre feet or 86 percent average.

White River, below Tygh Valley, is forecast at 115,000 acre feet or 91 percent average May through September.

Flow of smaller streams, such as Mill and Mile creeks, Badger, Rock and Gate creeks, will probably be a little less than usual with late-season flow tapering off a little earlier than usual.

*Report prepared by*

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# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",  
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch	Average	Average
Badger Creek	Average	Average
Dee Irrigation District	Average	Average
East Fork Irrigation Dist.	Average	Average
Farmers Irrigation Dist.	Average	Average
Hood River Irrigation Dist.	Average	Average
Juniper Flat	Average	Average
Middle Fork Irrigation Dist.	Average	Average
Mile Creeks	Average	Average
Mill Creek	Average	Average
Mount Hood Irrigation Dist.	Average	Average
Rock-Gate-Threemile Crs.	Average	Average
Tygh Creek	Average	Average
White River	Average	Average

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	11.8	7.2	2.3	—

# STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62	THIS YEAR
				AVERAGE	AS PERCENT OF AVERAGE
1210	Hood near Hood River <sup>d</sup>	190 240	May-July May-Sept.	218 278	87 86
1185	Hood, West Fork near Dee	88 110	May-July May-Sept.	101 125	87 88
1015	White below Tygh Valley	97 115	May-July May-Sept.	108 126	90 91

# SNOW

SNOW COURSE	CURRENT INFORMATION			PAST RECORD				
	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Brooks Meadows	4300	c						
Clear Lake	3500	4/28	4	1.8	10.2	7.2 <sup>h</sup>		
Clear Lake (Experimental)	3500	4/28	14	7.4	17.2	—		
Cooper Spur	3490	c						
Greenpoint Reservoir	3400	4/29	9	3.8	8.4	—		
Knebal Springs	3850	c						
Lambert Point	7000	Report delayed						
Parkdale	1770	c						
Phlox Point	5600	5/4	91	45.9	94.5	71.1		
Red Hill	4400	c						
Still Creek	3700	4/28	25	13.0	34.8	20.7		
Switchback	3255	c						
Tilly Jane	6000	c						
Ulrich Ranch Junction	3350	c						
Umbrella Falls	5400	c						
Upper Valley	2530	c						

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

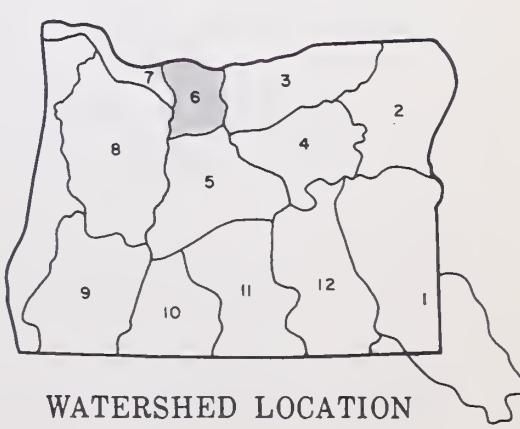
# HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

10 0 10 20  
SCALE IN MILES



## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station



WATERSHED LOCATION

*"The Conservation of Water begins with the Snow Survey"*

# WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

*as of*

MAY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

## GENERAL OUTLOOK

Water supplies will be at least adequate for all purposes in the Columbia Basin for 1965. The threat of excessive flows in central Idaho increased again in April after a relatively dry February and March. Forecasts for most tributary streams are for average or better flows. Reservoirs are now or will be at capacity by the end of the snowmelt season. Many reservoirs have been lowered during the early winter and late spring months to help control runoff, especially on the Snake River and its tributaries.

## SNOW COVER

As of May 1 the snowpack remains very high in mountains along and near the Continental Divide. On the Columbia main stem in Canada and in the Cascades of Oregon and Washington, the snowpack is above average at extremely high elevations, but most snow has melted at the lower and medium mountain elevations. Record high snowpacks exist in central Idaho.

## SOIL MOISTURE

Soil moisture is excellent at higher elevations throughout the basin.

## STREAMFLOW

The flow of the Columbia at The Dalles, Oregon has been high since October 1 and particularly high during the mid-winter months. The forecast of streamflow at this point for the April-September, 1965 period is about 123,000,000 acre feet or 113 percent of average. This compares to about 108,000,000 acre feet for the same period in 1964. Forecasts for other periods are shown in the tables of this report. According to the Co-operative Columbia River Forecasting Unit, sponsored by the U. S. Army Corps of Engineers and U. S. Weather Bureau there is a 50 percent probability that the peak flow of the Columbia at The Dalles will be between 600,000 and 700,000 cubic feet per second during the snowmelt season. Peak flows will depend to some degree on precipitation and temperature sequences during May.

The record for the flow of the Columbia at The Dalles in percent of average for the winter and spring months is as follows:

<u>Month</u>	<u>Percent of Average Discharge (1948-62)</u>			
October	113	(Adjusted for storage)	"	"
November	97	"	"	"
December	163	"	"	"
January	143	"	"	"
February	152	"	"	"
March	117	"	"	"
April	120	"	"	"

\* Preliminary data furnished by Current Records Center, U. S. Geological Survey, Portland, Oregon.

# STREAMFLOW FORECASTS<sup>a</sup>(1,000 Ac. Ft.) as of May 1, 1965

NO.	NAME	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
1057	Columbia at The Dalles		68,500 104,000	May-June May-Sept.	60,426 94,841	113 110

## HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW <sup>d</sup> (1,000 A.F.)			PEAK (1,000 c.f.s.)	DATE
	APR.— SEPT.	APR.— JUNE	MAY— JUNE		
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1948-62 Avg.	108,500	74,100	60,200	633	
1963	87,000	56,300	46,200	437	June 18

## LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s.)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
							RIVER MILES	
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

# LOWER COLUMBIA WATERSHEDS

10 0 10 20 30  
SCALE IN MILES

PACIFIC

OCEAN



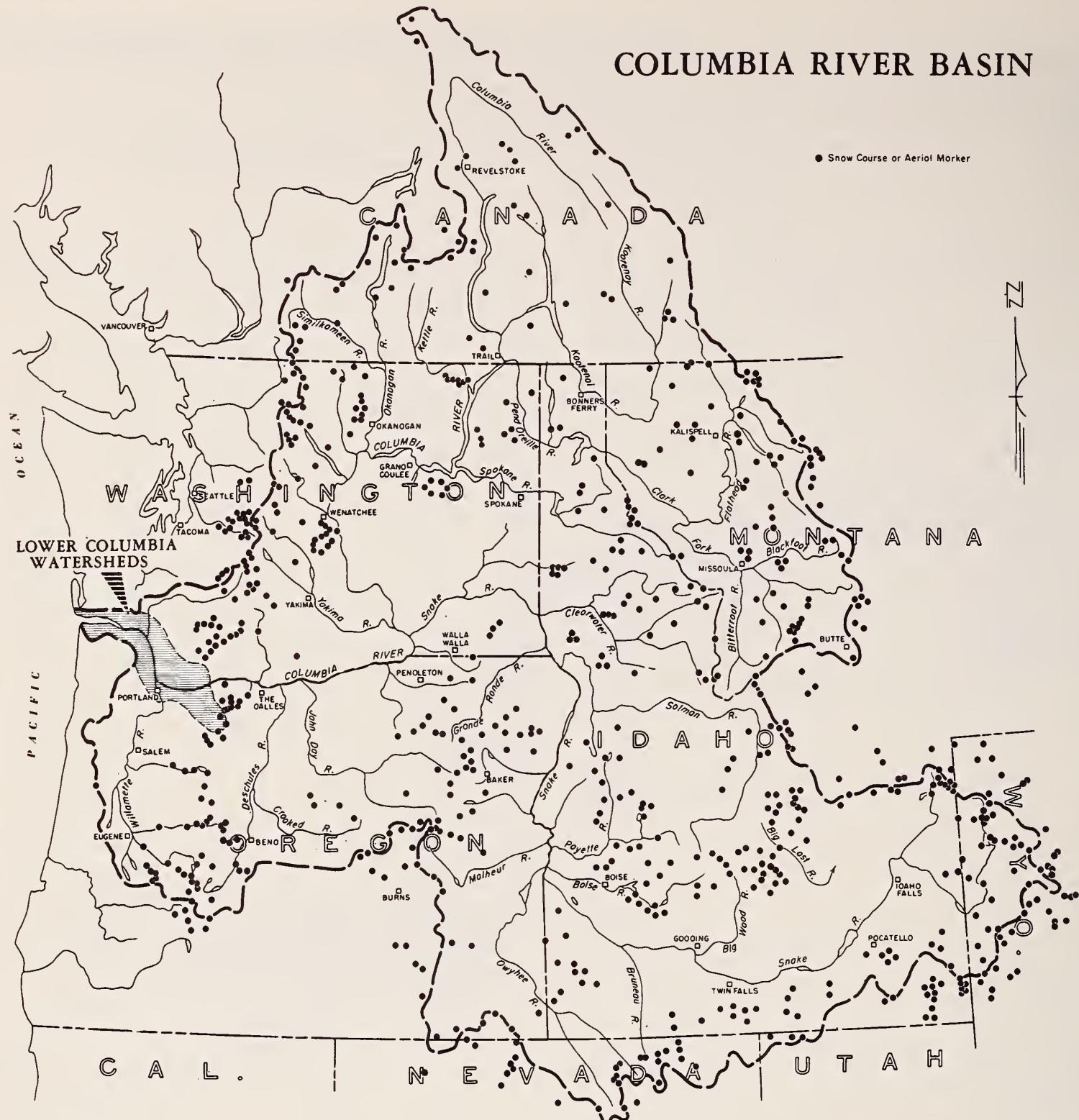
WATERSHED LOCATION

## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- River Miles
- Snow Course

# Lower Columbia Watersheds

## COLUMBIA RIVER BASIN



*"The Conservation of Water begins with the Snow Survey"*



# WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

*as of*

MAY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

## GENERAL OUTLOOK

The 1965 water supply outlook remains near average for Willamette Basin water users. Snow cover is well below average but soils under the snow are well primed and will aid in future runoff.

## SNOW COVER

Water content of the remaining snow cover on 27 snow courses in the Basin now averages 61 percent of the 1948-62 May 1 average. Measurements taken near May 1 indicated snow remained only on courses above the 3200 foot elevation level.

## SOIL MOISTURE

Soils under the snowpack are near saturation and are expected to produce good runoff from future snowmelt or precipitation.

## RESERVOIR STORAGE

Willamette Valley reservoirs, operated by the Corps of Engineers, are filling according to a flood control plan to reduce the spring peak flow of the river.

Timothy Lake is reported full and spilling all inflow.

## STREAMFLOW

The Middle Fork of the Willamette\* flowed only 74 percent of the April average for the 1948-62 period.

Streamflow forecasts remain about the same as on April 1 and are as follows for the April-September period:

Row near Dorena	100,000 a.f.	89 percent
Middle Fork Willamette	900,000 a.f.	93 percent
McKenzie near Vida	1,300,000 a.f.	93 percent
South Santiam	650,000 a.f.	96 percent
North Santiam	910,000 a.f.	92 percent
Willamette at Salem	5,010,000 a.f.	90 percent
Clackamas at Estacada	785,000 a.f.	88 percent

\* Preliminary data from U. S. Geological Survey, Portland, Oregon.

# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"  
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya	Average	Fair
Clackamas	Average	Average
McKenzie	Average	Average
Molalla	Average	Fair
Santiam, North	Average	Average
Santiam, South	Average	Average
Willamette, Coast Fork	Average	Average
Willamette, Middle Fork	Average	Average

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottage Grove	30.8*	23.7	23.0	25.4
Cougar	219.3*	104.1	74.5	—
Detroit	299.9*	272.3	30.9	228.9
Dorena	70.5*	49.5	55.9	53.6
Fern Ridge	94.2*	56.2	77.1	86.2
Hills Creek	249.0*	166.3	161.0	—
Lookout Point	337.2*	207.6	263.5	271.2
Timothy Lake	61.7	61.7	44.2	54.4

\*Multiple purpose reservoir--space reserved primarily for flood runoff.

# STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
2080	Clackamas at Big Bottom	136	April-July	150	91
		166	April-Sept.	184	90
2100	Clackamas at Estacada	678	April-July	770	88
		785	April-Sept.	890	88
2095	Clackamas above Three Lynx	526	April-July	584	90
		608	April-Sept.	683	89
1590	McKenzie at McKenzie Bridge	472	April-July	502	94
		612	April-Sept.	658	93
1625	McKenzie near Vida	1075	April-July	1144	94
		1300	April-Sept.	1392	93
2090	Oak Grove Fork above Power Intake	135	April-July	147	91
		175	April-Sept.	190	92
1545	Row near Dorena	97	April-July	108	90
		100	April-Sept.	112	89
1830	Santiam, North at Mehama <sup>d</sup>	813	April-July	884	92
		910	April-Sept.	991	92
1875	Santiam, South at Waterloo	612	April-July	637	96
		650	April-Sept.	675	96
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge <sup>d</sup>	803	April-July	863	93
		900	April-Sept.	968	93
1910	Willamette at Salem <sup>d</sup>	4586	April-July	5040	91
		5010	April-Sept.	5566	90

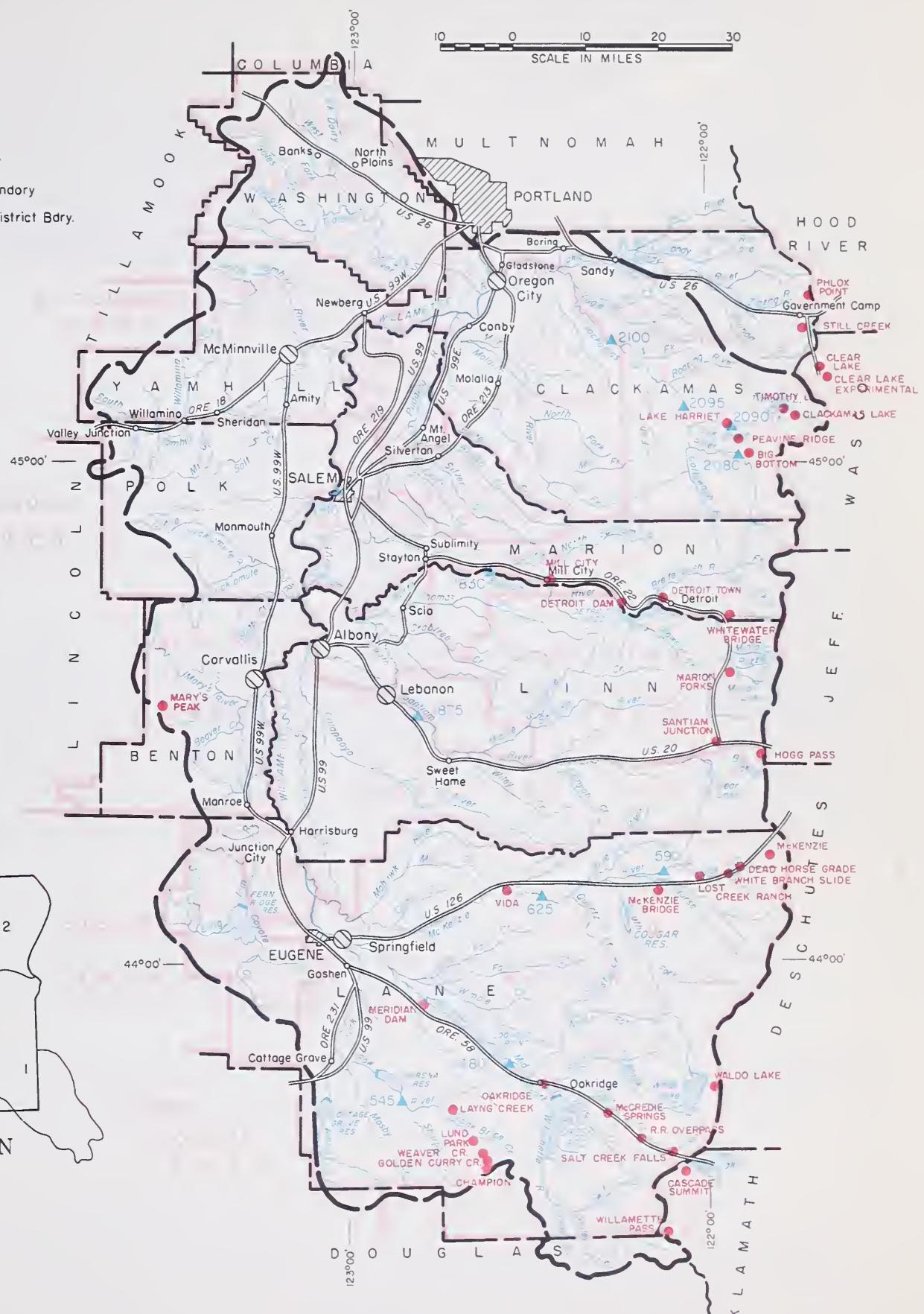
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# WILLAMETTE WATERSHEDS

10 0 10 20 30  
SCALE IN MILES

## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course



## WATERSHED LOCATION

# Willamette Watersheds

## SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR
NAME	ELEVATION					1948-62 AVERAGE
Big Bottom	2118	5/1	0	0.0	0.0	1.3 <sup>h</sup>
Cascade Summit	4880	4/29	36	18.6	34.3	28.6
Champion	4500	4/30	20	9.7	36.6	--
Clackamas Lake	3400	c				
Clear Lake	3500	4/28	4	1.8	10.2	7.2 <sup>h</sup>
Clear Lake (Experimental)	3500	4/28	14	7.4	17.2	--
Dead Horse Grade	3800	5/3	8	3.0	27.4	13.4 <sup>h</sup>
Detroit Town	1610	4/29	0	0.0	0.0	0.0 <sup>h</sup>
Detroit Dam	1580	4/29	0	0.0	0.0	0.0
Golden Curry Creek	3136	4/30	0	0.0	11.8	--
Hogg Pass	4755	4/30	65	32.1	50.7	46.9 <sup>h</sup>
Lake Harriet	2045	4/30	0	0.0	0.0	0.0 <sup>h</sup>
Layng Creek	1200	4/30	0	0.0	0.0	--
Lost Creek Ranch	1956	5/3	0	0.0	0.0	0.0 <sup>h</sup>
Lund Park	1740	4/30	0	0.0	0.0	--
Marion Forks	2730	4/29	0	0.0	--	3.9 <sup>h</sup>
Marys Peak	3620	5/2	4	1.1	17.5	--
McCredie Springs	2120	4/29	0	0.0	0.0	0.0 <sup>h</sup>
McKenzie	4800	5/3	76	40.8	57.8	51.6 <sup>m</sup>
McKenzie Bridge	1372	5/3	0	0.0	0.0	0.0
Meridian Dam	750	4/29	0	0.0	0.0	0.0 <sup>m</sup>
Mill City	826	4/29	0	0.0	0.0	0.0
Oakridge	1310	4/29	0	0.0	0.0	0.0 <sup>h</sup>
Peavine Ridge	3500	4/30	16	7.1	25.0	16.6 <sup>h</sup>
Phlox Point	5600	5/4	91	45.9	94.5	71.1
Railroad Overpass	2750	4/29	0	0.0	0.0	0.1 <sup>h</sup>
Salt Creek Falls	4000	4/29	T	T	22.8	11.4 <sup>h</sup>
Santiam Junction	3990	4/29	0	0.0	20.9	15.0 <sup>h</sup>
Still Creek	3700	4/28	25	13.0	34.8	20.7
Timothy Lake	3295	4/30	21	9.9	20.4	9.7 <sup>h</sup>
Vida	800	5/3	0	0.0	0.0	0.0 <sup>h</sup>
Waldo Lake	5500	c				
Weaver Creek	2440	4/30	0	0.0	0.0	--
White Branch Slide	2800	5/3	0	0.0	0.0	2.1 <sup>h</sup>
Whitewater Bridge	2175	4/29	0	0.0	0.0	T <sup>h</sup>
Willamette Pass	5600	4/27	73	39.6	46.5	45.4 <sup>h</sup>

*"The Conservation of Water begins with the Snow Survey"*



# WATER SUPPLY OUTLOOK ROGUE, UMPQUA, WATERSHEDS OREGON

*as of*  
MAY 1, 1965

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U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

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## GENERAL OUTLOOK

Adequate water supplies are forecast for water users in Jackson, Josephine and Douglas counties during the balance of the spring and summer of 1965 unless abnormally warm, dry weather conditions prevail during the runoff season. The mountain snowpack is near average, soil moisture in upper watersheds is excellent and stored water supplies have never been exceeded.

## SNOW COVER

Water content of the snowpack is 94 percent of the May 1 average and 77 percent of last year at this date. These figures represent unusually heavy snow in the high elevations and little or none in the lower elevations where the snow melted off about a month ago.

## SOIL MOISTURE

Soils in the upper watersheds are extremely wet and will favor runoff from melting snow or rainfall.

## RESERVOIR STORAGE

Howard Prairie, Hyatt Prairie and Emigrant Gap reservoirs contain a total of 114,200 acre feet of water compared with 111,200 acre feet one year ago. This supply is ample for 1965 operations of the Talent Irrigation District.

Fish Lake and Fourmile Lake reservoirs contain a total of 23,700 acre feet compared with 19,800 acre feet one year ago. This is adequate for operations of Medford and Rogue River Valley Irrigation Districts.

## STREAMFLOW

Flow of Rogue River at Raygold\* was 101 percent average during April.

The following forecasts of streamflow for the May through September period are compared with average flows for the 15 year period 1948-62:

Rogue above Prospect	265,000 a.f.	97 percent
Rogue below South Fork	565,000 a.f.	96 percent
Rogue at Raygold	700,000 a.f.	96 percent

continued on following page

continued

The following forecasts are for the April through September period:

Applegate near Copper	130,000 a.f.	92 percent
Illinois at Kerby	200,000 a.f.	94 percent
North Umpqua near Toketee	170,000 a.f.	91 percent
Clearwater above Trap Creek	71,000 a.f.	95 percent

\* Preliminary data furnished by Pacific Power & Light Co., Medford, Oregon.

### WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Average	Average
Applegate River, Big	Average	Average
Applegate River, Little	Average	Average
Ashland Creek	Average	Average
Butte Creek, Little	Average	Average
Butte Creek, Big	Average	Average
Cow Creek	Average	Average
Deer Creek	Average	Average
Elk Creek	Average	Average
Emigrant Creek (abv. Res.)	Average	Average
Evans Creek	Average	Average
Gold Hill Irrigation Dist.	Excellent	Average
Grants Pass Irrig. Dist.	Excellent	Average
Grave Creek	Average	Average
Illinois River, East Fork	Average	Average
Illinois River, West Fork	Average	Average
Jump-off-Joe Creek	Average	Average
Neil Creek	Average	Average
Red Blanket Creek	Average	Average
Rogue River	Average	Average
Sucker Creek	Average	Average
Table Rock Irrig. Dist.	Excellent	Average
Thompson Creek	Average	Average
Wagner Creek	Average	Average
Williams Creek	Average	Average

### RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Emigrant Gap	39.0	37.4	38.2	36.2*
Fish Lake	7.8	8.1	5.4	6.2
Fourmile Lake	16.1	15.6	14.4	10.7
Howard Prairie	60.0	60.6	58.0	--
Hyatt Prairie	16.1	16.2	15.0	12.3

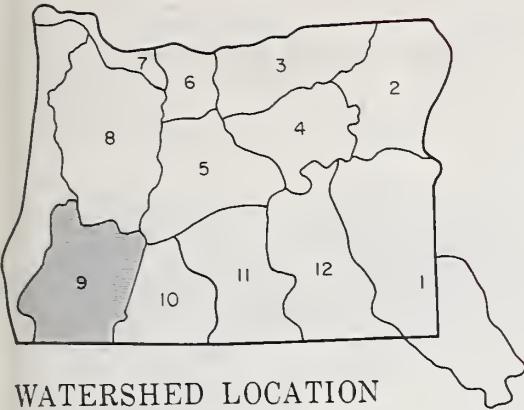
\*Average for years of record after reconstruction.

### STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
3620	Applegate near Copper	130	April-Sept.	142	92
3145	Clearwater above Trap Creek <sup>d</sup>	71	April-Sept.	75	95
5045	Fourmile Lake net Inflow <sup>d</sup>	6.3	April-Sept.	6.6	95
5140	Hyatt Reservoir net Inflow <sup>d</sup>	3.2	May-Sept.	3.4	94
3770	Illinois River at Kerby	196	April-July	206	95
		200	April-Sept.	212	94
3425	Little Butte, N. Fk. at Fish Lk. nr. Lake Cr. <sup>d</sup>	14.0	April-Sept.	16.0	88
3415	Little Butte, So. Fk. nr Lake Creek	32	April-July	38	84
	Note: Minimum flow will drop to 100 c.f.s. by May 28.				
3280	Rogue above Prospect	205	May-July	212	97
		265	May-Sept.	272	97
3320	Rogue, South Fork near Prospect <sup>d</sup>	51	May-July	52	98
		63	May-Sept.	64	98
3350	Rogue River below South Fork	430	May-July	443	97
		565	May-Sept.	586	96
3590	Rogue at Raygold near Central Point	550	May-July	567	97
		700	May-Sept.	730	96
3615	Rogue at Grants Pass	670	May-Sept.	700	96
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls <sup>d</sup>	170	April-Sept.	186	91

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# ROGUE, UMPQUA WATERSHEDS



10 0 10 20 30  
SCALE IN MILES



## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- Snow Course

## SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	LAST YEAR
Althouse	4530	c				
Annie Spring	6018	4/29	87	45.3	44.2	45.4
Beaver Dam Creek	5100	Not measured				
Big Red Mountain	6500	c				
Billie Creek Divide	5300	4/30	4	2.1	22.0	16.8 <sup>h</sup>
Champion	4500	4/30	20	9.7	36.6	--
Cold Springs Camp	6100	c				
Deadwood Junction	4600	Not measured				
Diamond Crater Summit	5800	4/29	73	36.5	31.8	--
Diamond Lake	5315	4/29	24	12.1	17.4	18.0
Eden Valley Summit	2390	Report	delayed			
Fish Lake	4865	Not measured				
Fourmile Lake	6000	Not measured				
Grayback Peak	6000	c				
Howard Prairie	4500	Not measured				
Hyatt Prairie Reservoir	4900	c				
King Mountain #1	4800	Not measured				
King Mountain #2	3646	Not measured				
King Mountain #3	2550	Not measured				
King Mountain #4	1779	Not measured				
Little Red Mountain	6500	c				
North Umpqua	4215	Report	delayed			
Page Mountain	4045	c				
Park Headquarters	6450	4/29	135	75.0	60.1	60.8
Red Butte #1	4560	4/29	T	T	--	--
Red Butte #2	4000	4/29	0	0.0	16.8	--
Red Butte #3	3500	4/29	0	0.0	7.6	--
Red Butte #4	3000	4/29	0	0.0	0.0	--
Red Butte #5	2500	4/29	0	0.0	0.0	--
Red Butte #6	2000	4/29	0	0.0	0.0	--
Seven Lakes #1	6800	c				
Seven Lakes #2	6200	c				
Silver Burn	3720	4/28	0	0.0	5.0	2.9 <sup>h</sup>
Siskiyou Summit	4630	Not measured				
South Fork Canal	3500	4/28	0	0.0	0.0	0.0 <sup>m</sup>
Trap Creek	3800	5/5	0	0.0	13.5	5.9 <sup>h</sup>
Whaleback	5140	c				
Windigo Pass	5800	4/28	89	46.1	51.3	48.8 <sup>h</sup>

# WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON



*as of*  
MAY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

## GENERAL OUTLOOK

Klamath Basin water users will have average to excellent water supplies during the balance of the spring and summer unless abnormally warm, dry weather conditions prevail during the runoff period. Mountain snowpack is satisfactory and watershed soils are extremely wet in the upper areas near the snowpack. Reservoir water is plentiful for agriculture.

## SNOW COVER

Water content of the mountain snowpack is 94 percent average but this principally reflects heavy snow in the high areas because low-elevation snow melted off over a month ago.

## SOIL MOISTURE

Watershed soils are in need of surface moisture in the valley areas but are extremely wet, about 89 percent of capacity, in the snow belt.

## RESERVOIR STORAGE

Stored water in Upper Klamath Lake was 490,800 acre feet on May 1 compared with 481,200 acre feet one year ago. The lake has gained nearly 100,000 acre feet in the past month.

Gerber and Clear Lake reservoirs contained 88,800 and 302,900 acre feet respectively on May 1 this year compared with 66,500 and 166,200 last year. Not since 1958 have these reservoirs held such good water supplies.

## STREAMFLOW

Inflow to Upper Klamath Lake\* in April fell below average for the first time this winter with 166,330 acre feet recorded or 83 percent average.

Forecasts of inflow to Gerber and Clear Lake reservoirs for the period May through September are set at 5,000 and 15,000 acre feet or 81 and 86 percent average respectively.

Flow of the Sprague River near Chiloquin is forecast at 220,000 acre feet or 116 percent average for the five months May through September. Flow of the Williamson below Sprague is forecast at 380,000 acre feet or 113 percent for the same period.

Inflow to Upper Klamath Lake is forecast at 500,000 acre feet or 114 percent a average for May through September.

\* Preliminary data furnished by Pacific Power & Light Co., Medford, Oregon.

Report prepared by

W.T. FROST AND BOB L. WHALEY

U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.  
PORTLAND, OREGON 97205

# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",  
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley	Excellent	Average
Lost River (Clear Lake)	Excellent	Average
Lost River (Gerber)	Excellent	Average
Lost River (Willow Res.)	Excellent	Average
Sprague River	Excellent	Average
Upper Klamath Lake	Excellent	Average
Williamson River	Excellent	Average

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	440.2	302.9	166.2	256.1
Gerber	94.0	88.8	66.5	60.0
Upper Klamath Lake	584.0	490.8	481.2	518.2

# STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
NO.	NAME				
923	Clear Lake Reservoir Inflow <sup>k</sup>	15.0	May-Sept.	17.4	86
8215	Gerber Reservoir Inflow <sup>k</sup>	5.0	May-Sept.	6.2	81
5010	Sprague near Chiloquin	220	May-Sept.	190	116
5070	Upper Klamath Lake net Inflow <sup>k</sup>	500	May-Sept.	438	114
5025	Williamson below Sprague River	380	May-Sept.	336	113

# SOIL MOISTURE

STATION	PROFILE (Inches)		SOIL MOISTURE (Inches)		
	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR
NAME	ELEVATION				2 YEARS AGO
Bly Mountain	5090	42	14.0	4-30-65	12.5
					12.6
					12.9

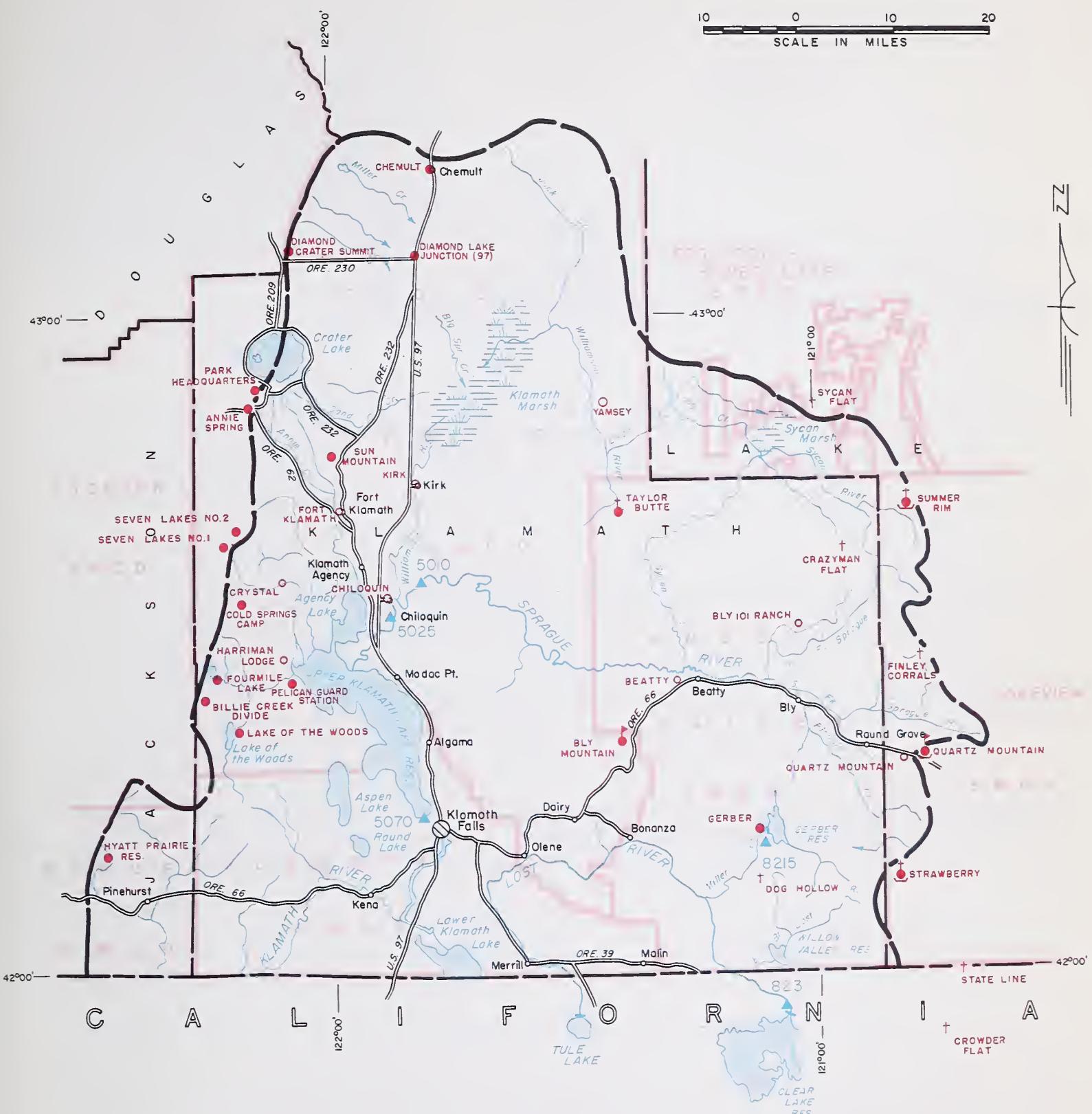
# SNOW

SNOW COURSE	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	CURRENT INFORMATION		PAST RECORD	
						LAST YEAR	1948-62 AVERAGE		
Annie Spring	6018	4/29	87	45.3	44.2	45.4			
Beatty (PP&L)	4400	b							
Billie Creek Divide	5300	4/30	4	2.1	22.0	16.8 <sup>h</sup>			
Bly Mountain	5090	4/30	0	0.0	0.0	0.0 <sup>m</sup>			
Bly 101 Ranch (PP&L)	4800	b							
Chemult	4760	4/29	0	0.0	0.9	0.6 <sup>m</sup>			
Chiloquin (PP&L)	4187	b							
Cold Springs Camp	6100	c							
Crazyman Flat <sup>e</sup>	6100	c							
Crowder Flat <sup>e</sup> (Calif.)	5200	c							
Crystal (PP&L)	4200	b							
Diamond-Crater Summit	5800	4/29	73	36.5	31.8	--			
Diamond Lake Junction (97)	4600	4/29	0	0.0	0.0	--			
Dog Hollow	4900	c							
Finley Corrals	6000	c							
Fort Klamath (PP&L)	4150	b							
Gerber	4850	c							
Harriman (PP&L)	4200	b							
Hyatt Prairie Reservoir	4900	c							
Kirk (PP&L)	4533	b							
Lake of the Woods	4960	4/30	T	T	14.0	6.3 <sup>h</sup>			
Park Headquarters	6450	4/29	135	75.0	60.1	60.8			
Pelican Guard Station	4150	b							
Quartz Mountain	5320	4/30	0	0.0	0.0	0.1 <sup>m</sup>			
Quartz Mountain (PP&L)	5504	4/30	0	0.0	0.0	0.0 <sup>m</sup>			
Seven Lakes #1	6800	c							
Seven Lakes #2	6200	c							
State Line <sup>e</sup> (Calif.)	5750	c							
Strawberry	5760	4/26	0	0.0	T	0.4 <sup>h</sup>			
Summer Rim	7200	c							
Sun Mountain	5350	c							
Sycan Flat <sup>e</sup>	5500	c							
Taylor Butte	5100	c							
Yamsey (PP&L)	4600	b							

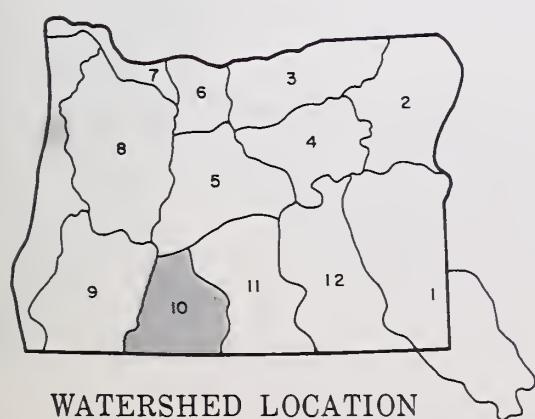
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# KLAMATH WATERSHEDS

10 0 10 20  
SCALE IN MILES



## LEGEND



- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage

WATERSHED LOCATION

*"The Conservation of Water begins with the Snow Survey"*



# WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

*as of*  
MAY 1, 1965

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U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

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## GENERAL OUTLOOK

Lake County water users will have average to excellent water supplies the balance of this spring and summer unless abnormally warm, dry weather conditions prevail during the runoff period. Mountain snowpacks have melted off all low and medium elevations but at high elevations they remain heavy. Soils are exceptionally wet in high areas and local reservoirs are all filled.

## SNOW COVER

Substantial snowpacks are reported above 6500 feet elevation but no surveys were made at these higher levels this month.

## SOIL MOISTURE

Watershed soils at valley sites are in need of some moisture but on the high ridges the soils are 92 percent of capacity and especially wet under the snow.

## RESERVOIR STORAGE

Drews Reservoir contains about 67,400 acre feet of water and is spilling. Cottonwood held 8,400 acre feet on May 1 compared with 4,000 acre feet one year ago. Lakeview Water Users will have adequate water for 1965 operations.

## STREAMFLOW

Recent rains have improved the water outlook on smaller streams although streamflow forecasts are unchanged from the estimates made on April 1.

Inflow to Drews Reservoir is forecast at 11,000 acre feet or 97 percent average for the May through September period.

Flow of the Chewaucan River is forecast at 95,000 or 108 percent average for the six months April through September.

In Warner Valley the forecasts for April through September streamflow are as follows:

Honey Creek near Plush	15,500 a.f.	96 percent
Deep Creek above Adel	75,000 a.f.	104 percent
Twenty-mile Creek near Adel	21,000 a.f.	94 percent

Flow of small streams is expected to be very near average.

Report prepared by

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# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"  
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan	Average	Average
Crooked River	Average	Average
Deep Creek	Average	Average
Dry Creek	Average	Average
East Side Goose Lake	Average	Average
Guano Lake	Average	Average
Honey Creek	Average	Average
Lakeview Water Users Assn.	Excellent	Average
Rock Creek (Hart Mtn.)	Average	Average
Silver-Buck Creeks	Average	Average
Summer Lake	Average	Average
Thomas Creek	Average	Average
Twentymile Creek	Average	Average
Warner Lakes	Average	Average

# RESERVOIR STORAGE (1,000 Ac. Ft.) May 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottonwood	8.7	8.4	4.0	6.4*
Drews	63.0	67.4	59.3	53.0

\*2 yr. average after reconstruction.

# STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
NO.	NAME				
3840	Chewaucan near Paisley	85 95	April-June April-Sept.	79 88	108 108
3715	Deep above Adel	70 75	April-June April-Sept.	68 72	103 104
3385	Drews Reservoir net Inflow <sup>d</sup>	11.0	May-Sept.	11.4	97
3785	Honey near Plush	14.8 15.5	April-June April-Sept.	15.6 16.1	95 96
3660	Twentymile near Adel	20 21	April-June April-Sept.	21 22	95 94

# SOIL MOISTURE

STATION	PROFILE (Inches)		SOIL MOISTURE (Inches)		
	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR
NAME	ELEVATION				2 YEARS AGO
Camas Creek	5720	42	14.5	4-29-65	13.2
Quartz Mountain	5320	48	15.3	4-30-65	10.4

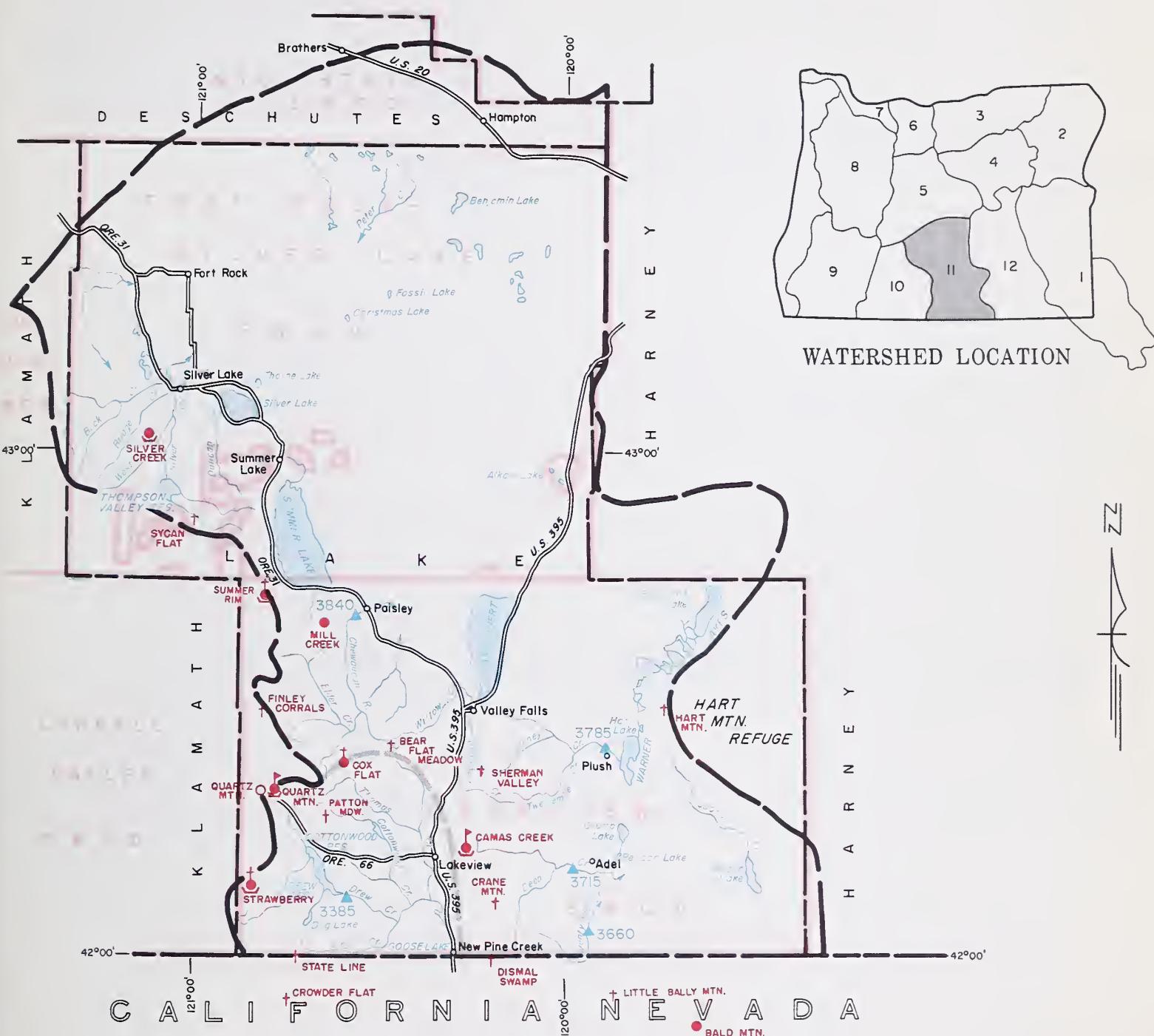
# SNOW

SNOW COURSE	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
						LAST YEAR	1948-62 AVERAGE
Bald Mountain (Nev.)	6720	c					
Bear Flat Meadow <sup>e</sup>	5900	c					
Camas Creek	5720	4/29	T	T	--	--	
Cox Flat <sup>e</sup>	5750	c					
Crane Mountain <sup>e</sup>	6020	c					
Crowder Flat <sup>e</sup> (Calif.)	5200	c					
Dismal Swamp <sup>e</sup> (Calif.)	7000	c					
Finley Corrals <sup>e</sup>	6000	c					
Hart Mountain <sup>e</sup>	6350	c					
Little Bally Mountain <sup>e</sup> (Nev.)	6600	c					
Mill Creek	6200	c					
Patton Meadows <sup>e</sup>	6800	c					
Quartz Mountain (PP&L)	5504	4/30	0	0.0	0.0	0.0 <sup>m</sup>	
Quartz Mountain	5320	4/30	0	0.0	0.0	0.1 <sup>h</sup>	
Sherman Valley <sup>e</sup>	6600	c					
Silver Creek	4900	c					
State Line <sup>e</sup> (Calif.)	5750	c					
Strawberry	5760	4/26	0	0.0	T	0.4 <sup>h</sup>	
Summer Rim	7200	c					
Sycan Flat <sup>e</sup>	5500	c					

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# LAKE COUNTY, GOOSE LAKE WATERSHEDS

10 0 10 20 30  
SCALE IN MILES



## LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aeriel Snow Depth Goge
- COPCO Snow Station
- ▲ Soil Moisture Station
- Precipitation Goge



# WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

*as of*

MAY 1, 1965

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U. S. D. A. SOIL CONSERVATION SERVICE  
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

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## GENERAL OUTLOOK

Harney County ranchers will have average water supplies for the balance of the spring and summer of 1965. Mountain snowpacks have practically disappeared at low and medium elevations leaving only high elevation snow to provide runoff. Watershed soils are well wetted and near the saturation point under the snow. The streamflow outlook is good.

## SNOW COVER

Density of the remaining snowpack is unusually high but the only snow remaining is at high elevations.

## SOIL MOISTURE

Moisture in watershed soils has increased since last month. Soils are now wet up to 94 percent of capacity in North Harney and 88 percent capacity in South Harney.

## STREAMFLOW

Some small streams have already had most of their flow for this season but larger streams are expected to produce slightly above average amounts of water in the April-September period as follows:

Silvies River near Burns	105,000 a.f.	106 percent
Silver Creek near Riley	23,000 a.f.	105 percent
Blitzen River near Frenchglen	65,000 a.f.	105 percent
Trout Creek near Denio	9,000 a.f.	107 percent

Flow of most small streams is expected to be near average.

*Report prepared by*

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# WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",  
"Average" or "Excellent"

# RESERVOIR STORAGE (1,000 Ac. Ft.)

May 1, 1965

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Average	Average
Cow Creek	Average	Average
Donner und Blitzen River	Average	Average
Mill-Coffeepot Creeks	Average	Average
Rattlesnake Creek	Average	Average
Silver Creek	Average	Average
Silvies River	Average	Average
Soldier-Prather Creek	Average	Average
Trout Creek	Average	Average
Whitehorse Creek	Average	Average

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

## STREAMFLOW FORECASTS<sup>a</sup> (1,000 Ac. Ft.) as of May 1, 1965

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE <sup>i</sup>
				AVERAGE	AS PERCENT OF AVERAGE <sup>i</sup>
3960	Donner und Blitzen near Frenchglen	55 65	April-June April-Sept.	52 62	106 105
4030	Silver near Riley	23	April-July	22	105
3935	Silvies near Burns	103 105	April-June April-Sept.	96 99	107 106
4065	Trout near Denio	8.0 9.0	April-June April-Sept.	7.4 8.4	108 107

## SOIL MOISTURE

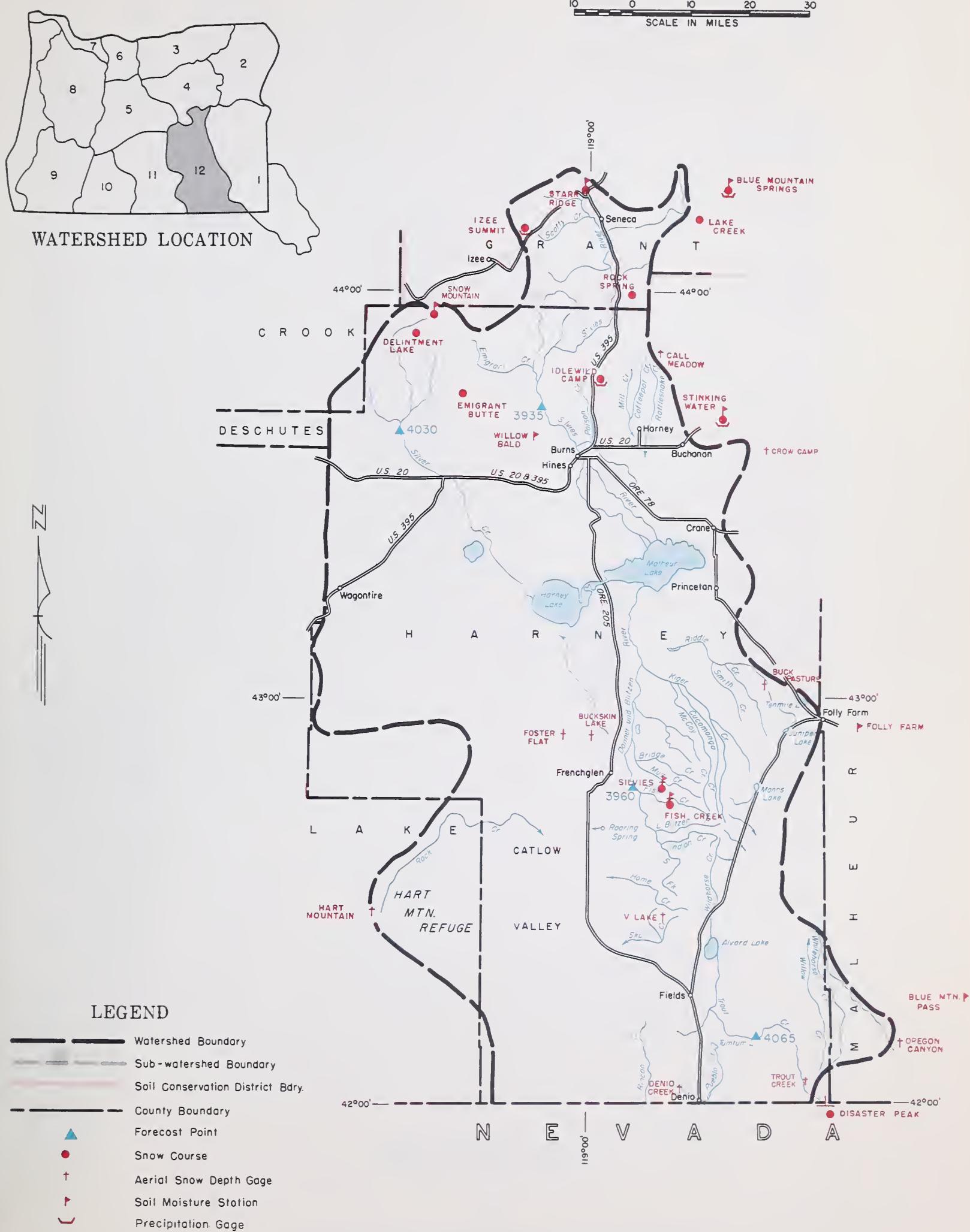
STATION NAME	PROFILE (Inches)		SOIL MOISTURE (Inches)				
	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	16.9	4-26-65	13.5	12.5	14.0
Fish Creek	7900	48	15.0	c			
Folly Farm	4450	30	12.5	4-7-65	12.1 <sup>f</sup>	-- <sup>f</sup>	9.8 <sup>f</sup>
Silvies	6900	48	16.4	3-30-65	13.4 <sup>f</sup>	10.4 <sup>f</sup>	13.3 <sup>f</sup>
Snow Mountain	6300	48	16.7	3-29-65	15.9 <sup>f</sup>	12.4 <sup>f</sup>	14.9 <sup>f</sup>
Starr Ridge	5150	36	10.6	4-26-65	10.3	10.6	10.6
Stinking Water Summit	4800	48	21.9	4-7-65	21.9 <sup>f</sup>	21.1 <sup>f</sup>	21.9 <sup>f</sup>
Willow-Bald	5000	24	6.6	3-29-65	6.5 <sup>f</sup>	6.4	6.4 <sup>f</sup>

## SNOW

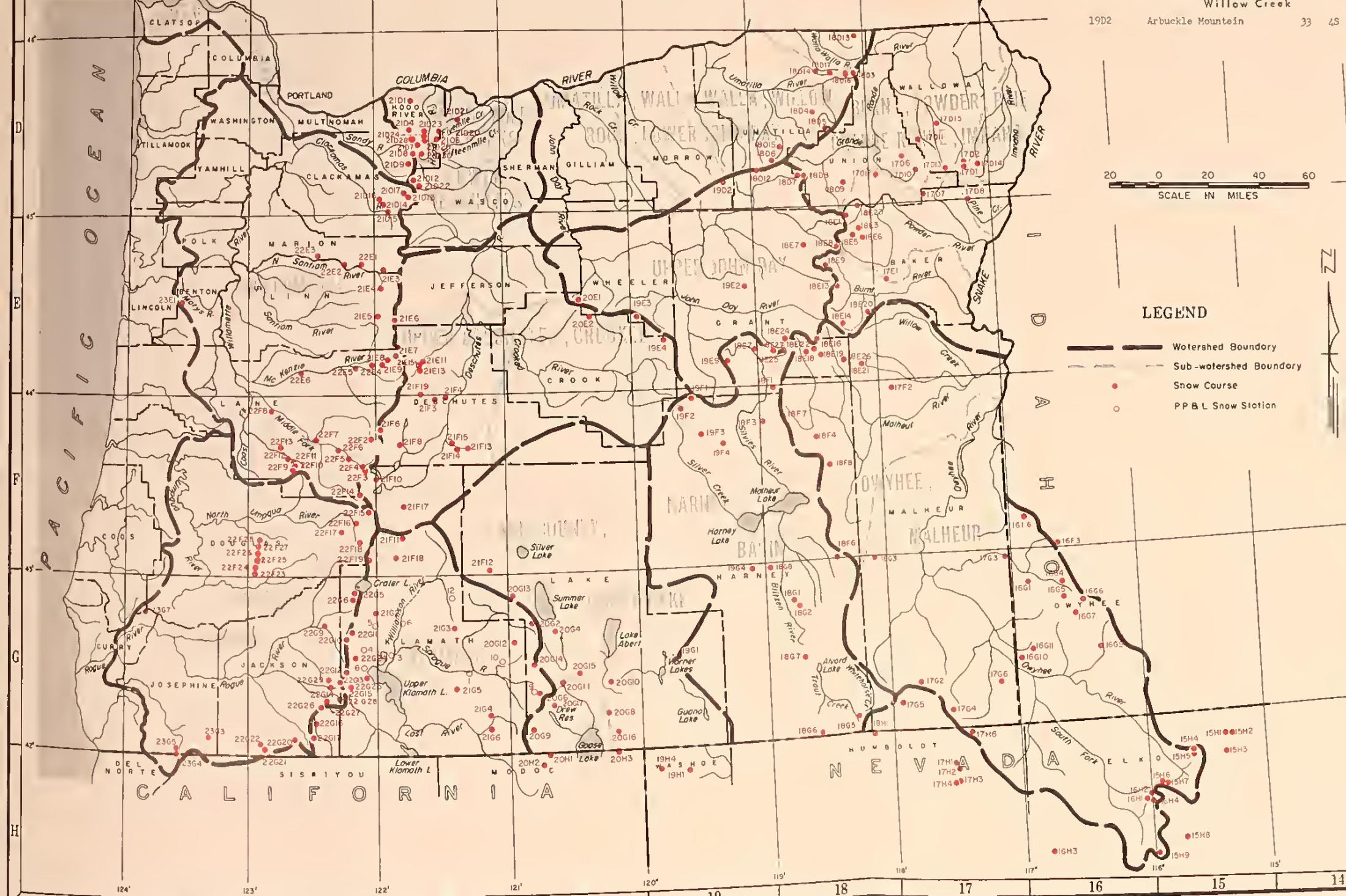
SNOW COURSE NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	CURRENT INFORMATION		PAST RECORD	
					LAST YEAR	1948-62 AVERAGE		
Blue Mountain Springs	5900	4/26	32	14.1	10.4	7.8 <sup>m</sup>		
Buck Pasture <sup>e</sup>	5700	c						
Buckskin Lake <sup>e</sup>	5200	c						
Call Meadows <sup>e</sup>	5340	c						
Crow Camp <sup>e</sup>	5500	c						
Delintment Lake	5600	c						
Denio Creek <sup>e</sup>	6000	c						
Disaster Peak (Nev.)	6500	c						
Emigrant Butte	5000	c						
Fish Creek	7900	c						
Hart Mountain	6350	c						
Idlewild Camp	5200	4/29	0	0.0	0.0		--	
Izee Summit	5293	4/26	0	0.0	2.5	1.6 <sup>m</sup>		
Lake Creek	5120	c						
Oregon Canyon <sup>e</sup>	6950	c						
Rock Spring	5100	4/29	0	0.0	0.0		--	
Silvies	6900	c						
Snow Mountain	6300	c						
Starr Ridge	5150	4/26	0	0.0	0.0	0.4 <sup>m</sup>		
Stinking Water	4800	Not measured						
Trout Creek <sup>e</sup>	7800	c						
"V" Lake <sup>e</sup>	6600	c						

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# HARNEY BASIN WATERSHEDS



*"The Conservation of Water begins with the Snow Survey"*



## Map and Index

## OREGON SNOW COURSE



# The Following Organizations Cooperate in the Oregon Snow Survey Work

## STATE

Idaho Cooperative Snow Surveys  
Nevada Cooperative Snow Surveys  
Oregon State University  
Oregon State Engineer and Corps of State Watermasters  
Oregon State Highway Engineers  
Soil and Water Conservation Districts of Oregon

## COUNTY

Douglas County Water Resources Survey

## FEDERAL

Department of Agriculture  
Cooperative Extension Service  
Forest Service  
Soil Conservation Service  
Department of Commerce  
Weather Bureau  
Department of the Interior  
Bonneville Power Administration  
Bureau of Land Management  
Bureau of Reclamation  
Fish and Wildlife Service  
Geological Survey  
National Park Service  
Department of National Defense  
Corps of Army Engineers

## PUBLIC UTILITIES

Pacific Power and Light Company  
Portland General Electric Company  
California-Pacific Utilities Company

## MUNICIPALITIES

City of Baker  
City of La Grande  
City of The Dalles  
City of Walla Walla

## IRRIGATION DISTRICTS

Arnold Irrigation District  
Associated Ditch Companies  
Burnt River Irrigation District  
Central Oregon Irrigation District  
East Fork Irrigation District  
Grants Pass Irrigation District  
Hood River Irrigation District  
Jordan Valley Irrigation District  
Lakeview Water Users, Incorporated  
Medford Irrigation District  
Middle Fork Irrigation District  
North Board of Control - Owyhee Project  
North Unit Irrigation District  
Ochoco Irrigation District  
Rogue River Valley Irrigation District  
South Board of Control - Owyhee Project  
Squaw Creek Irrigation District  
Talent Irrigation District  
Tumalo Project  
Vale-Oregon Irrigation District  
Warmsprings Irrigation District

## PRIVATE ORGANIZATIONS

Amalgamated Sugar Company  
The Crag Rats, Hood River, Oregon

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SOIL CONSERVATION SERVICE  
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with the Snow Survey"*